

# **ALICE LAW**

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## **PREFACE**

Han Erim

Until today, I have been publishing my physics studies which I call "Alice Law" on the internet. I have decided to collect them into a book as I want my studies to be more permanent.

Alice Law is a distinctive window in physics. I have been looking through this window for a long time. I've been trying to understand what I see while looking from there and writing what I could understand. I have learnt Alice Law in time by studying it on my own. The more I have learnt about it, the more I have seen and discovered in it. By learning new things, I notice the defects and the mistakes in my previous studies. I turn back, write them once again and go beyond where I left. In this book, I will have conveyed my thoughts about it in their last form. In fact, I am really happy with this.

Without keeping you in further suspense, I would like to start with what Alice Law, namely the window through which I look, is. Alice Law and Relativity Theory are completely identical. It took years for me to understand that both are the same. However, there is an important difference between them. Alice Law is the actual form of Relativity Theory. It has offered a lot of innovations to the present theory and corrected the mistakes in it to a great extent.

If you ask me whether Alice Law is accurate, my answer would be as follows: First of all, you don't have the right to direct such a heavy question. It is not a proper approach to talk about something like "absolute accuracy" in physics. The best answer to your question would be "Alice Law is much closer to accuracy." It is so close to it that it can create a breakthrough in physics. Certainly, there may be some mistakes in what I tell in Alice Law. Who doesn't have the right to make mistakes when the subject is physics, anyway? Though there may be some mistakes, they would never be able to cast doubt on the breakthrough that Alice Law managed to create as there are so many obvious facts in it. Seeing that you have started to read this book, you yourself will decide about the accuracy of Alice Law, anyway. To tell the truth, the only thing I expect to see in you is that you make your decision about this matter on your own.

I have already told that Alice Law and Relativity Theory are the same. If I tell you what Relativity Theory is, thus I will have explained what Alice Law is. If you please, let's take a look at how Albert Einstein, the founder of this theory, answered this question:

"The theory of relativity is that physical theory which is based on a consistent physical interpretation of the concepts of motion, space and time."

Albert Einstein considered Relativity Theory in these borders. However, the real meaning of Relativity Theory is not like that. Relativity Theory is a complement of energy laws. In this complement, there are mass, motion, heat, time, force, every kind of physical quantity you can imagine; everything is in it. However, energies are more dominant in Relativity Theory. Imagine that you had a pair of glasses. When you wear them, let them show you not the objects but the energies in the substance that constitute the objects, their relationship with each other and their own world. Relativity is what we see while looking through those glasses. In a way, relativity is the engine of physics laws; it is the heart of physics.

Relativity theory is an extremely important theory, as relativity laws in physics are of top priority in physics. If you consider the branches of physics as the bars of an umbrella, relativity theories are on the top of this umbrella and play a determinative role on the composition of other physics laws. You may know a physics law but you wouldn't know its

reason and why it exists. The answer to the question “Why does this law exist?” is mostly hidden in relativity laws. Therefore, understanding relativity theory makes it easy to understand the reasons of other physics law. Albert Einstein has shown us its place. Alice Law is the first real step taken into this extraordinary world.

Relativity Theory first started with **Special Relativity** theory of Albert Einstein and **General Relativity** theory, which he developed afterwards, was adjoined to this theory. Relativity theory has been a theory hard to be understood and to be commented on for everybody until now. The reason why it is difficult to understand is not because it is really difficult, but because it has a number of mistakes in it. Also, as the people who understand it (!) get lost in those mistakes, relativity theory has never been completely understood by anyone at any time. It may surprise you but this is the case even for Albert Einstein. This theory has survived until today with its mistakes as a product of fiction that lives in people’s imagination. Does it surprise you that I have such a rough tongue? Don’t be surprised, I have to say all of these. However, on the other hand, this theory has never been a theory to be ignored, because there are such concepts and results in physics that there has never been a consistent theory to explain them other than relativity theory. Consequently, this theory has maintained its presence among physicists until now.

Alice Law simplifies this theory and makes it easy to understand it by contributing to it considerably. Besides, it also makes significant adjustments and revisions on the theory. Special Relativity theory has been written from the start in Alice Law. In General Relativity theory, the existing theoretical substructure has been fully preserved and new principles have been attached to it. The theoretical simplicity in Alice Law has reflected on its mathematics and the mathematics of relativity theory also has become simplified.

There is another thing that Alice Law managed to do. It is to transform relativity theory from being only a theory to a group of physics laws. Alice Law is the first step taken into this group of laws.

## THE STORY OF ALICE LAW

### Introduction:

I am neither a physicist, nor a mathematician. Incidentally, after the age of thirty five, I found myself in physics, writing Alice Law. I would like to start explaining Alice Law to you by telling the story of how I have reached it.

I was trying to write a mathematics algorithm in my computer as an amateur. My aim was to write a data compression software programme. I was using number bases and number systems in this compression algorithm. At a further stage of my studies, I incidentally realized that the mathematics I utilized had taken me to a very interesting point. The mathematics I used seemed to be in an exact compliance with the gravity law of Classical Mechanics. The chains of numbers seemed to remind the results of Newton's gravity law ( $F = G \cdot m_1 \cdot m_2 / d^2$ ) equation.

This type of mathematics attracted me so much that I decided to study in order to understand whether gravity law can be expressed with this way of mathematics. I have made various researches. For instance, I tried to see whether G universal gravity constant can be obtained from the numbers created by this algorithm. This type of calculations was really difficult as my tiny home computer failed to calculate the thousands of numbers I entered. It sometimes took days for a calculation to be concluded. Despite everything, I have worked on this type of mathematics for a long time. Consequently, I realized that I would not be able to write the data compression software with my current computer, but my efforts were not wasted. This type of mathematics provided me with a window which nobody has realized until today. I have started looking through this window with tremendous curiosity and this window has led me to Alice Law in time.

In order not to digress from the main topic, I do not want to mention the details of the algorithm and mathematics I used. I would like to summarize them this way: I picked up a random mass value and calculated the possible gravity force (gravity zone) values belonging to this mass using number bases. The algorithm constituted a different mathematical model special for that mass for each mass value. Constantly picking a random mass value and calculating the presumptive gravity force values that this mass can create slowly unwittingly introduced me to FIELD CONCEPT. Field concept was the path to Alice Law, this was my window. Thus, I found myself on a road which becomes strange gradually. My thoughts inevitably summoned me to walk on this road. This call has become irresistible for me in time and I have started to walk on this path slowly.

If you calculate the gravity force value in space for each mass like I did (the mathematics I worked on constituted different mathematical values for each mass), you will have defined a different space composed by specific numbers for each object. I decided to name those special spaces as **FIELD** in order to maintain compliance with physics. Certainly, field concept was just a mathematical model in my conception, it was a presumption and it always stayed as a model for me until that tremendous moment.

What I have told until now is not something beyond mind gymnastics, of course. You can imagine, you can think of everything in your imagination. I was thinking of things just like that. At this stage, I would like to express my gratitude towards Richard Feynman who is a famous physicist. I have read the Turkish translation of the book "On Physics Laws" written by him. I have never forgotten the two things he said: "A real physics law must be simple. If it is not simple, then it is not correct" and "You will definitely feel the accuracy of the physics law on which you study." In the same way, I felt that there was something extraordinary on the point I arrived. The mathematics I used never left me alone and kept my mind busy all the time. One day the following question arose in my mind: "Could this type of mathematics be in compliance with Einstein's physics as it was with Newton's physics?" If such

compliance was possible, this type of mathematics would be really very precious. Hence, I took my first step in physics in real sense after this point.

First of all, I had to understand Einstein's physics and I started to read Einstein's works. I already knew that there were different concepts in Einstein's physics such as time dilation, length contraction and space contraction. I might perhaps reach these kinds of concepts with the mathematics I had in my hand. I needed to comprehend his theory and his thoughts; I started to study his Special Relativity theory.

I was trying to interpret his theory within the borders of the FIELD CONCEPT that I had. I need to state that, the field model in a shape which I told you indicates an interesting type of mathematics. This is  $(c+v)$   $(c-v)$  mathematics. I have explained this type of mathematics in all versions of Alice Law. If you have read before, you won't have any difficulties. I will explain it again in further chapters.

After a period of study, I desperately realized that  $(c+v)$   $(c-v)$  mathematics never corresponded to Einstein's physics. This really made me upset. Moreover,  $(c+v)$   $(c-v)$  mathematics did not permit the existence of concepts in Einstein's physics such as time dilation, length contraction and space contraction. Furthermore, when you think in accordance with this type of mathematics, the speed of light could not be constant for all reference systems, namely  $c$  (speed of light). If you are an ordinary person who is not a physicist, if you have started studying physics almost at the age of forty, if you do not know advanced mathematics, you will become afraid of yourself in such a situation and you doubt the researches you have made. You may even question your mental health. I started to be afraid of myself, my studies and my thoughts. Before me, stood the greatest scientist that physics had seen until that day. I was stuck in a really difficult position and wanted to escape leaving everything behind. However, I could never escape; the mathematics had already captured me.

### **The Beginning of Everything, the Great Moment:**

I had to do something, something different. One day, I started working on a graph at my computer with  $(c+v)$   $(c-v)$  mathematics. This graph is the graphics I have published in my study named "First Paper." When I completed the graph, I understood where Einstein made the mistake. I was surprised. Everything turned upside down at that moment. I can't tell you how sorry I felt for him at that moment. Albert Einstein was never able to see what I saw at that time. (You can see this graph in "First Paper" chapter placed at the end of the book.)

I was facing a strange situation, then. I knew where Albert Einstein's mistake was, but this did not mean that my thoughts were accurate. I had to investigate whether there were conclusions which supported my own thoughts. I decided to do the only thing I could do: I started searching the internet for any publication dealing with  $(c+v)$   $(c-v)$  mathematics. It is very interesting that in my first trial, I found a research dealing with GPS (Global Positioning System) belonging to the Canadian decedent physicist Paul Marmet which he published on his website. The existence  $(c+v)$   $(c-v)$  mathematics in GPS was clearly expressed in this study. I remember him with gratitude. You cannot imagine how excited and happy I felt at that moment. Although I was not able to understand the theoretical views in his publication in addition to the fact that I hardly knew English at that time, this research of his motivated me greatly. Therefore, the objective which I should investigate was determined. I had to reach the experimental data in GPS.

## Hard Times with GPS

For a long time, I have tried to understand how a signal sent from a satellite in GPS reaches the earth. However, the mathematics and physics language that physicists used in GPS documents were very different and complicated for me. I didn't know advanced mathematics and generally I understood nothing from the terminology, calculations, formulas they used. Moreover, I did not run across any publication which clearly expresses the existence of  $(c+v)$   $(c-v)$  mathematics. Finally, after long efforts of scanning, I was able to find a few researches which include some trifling data on  $(c+v)$   $(c-v)$  mathematics. The data I had was not satisfactory at all and was lacking in terms of quantity. The authors of the publications which I found did not consider  $(c+v)$   $(c-v)$  mathematics the way I did. Their thoughts were very different. I realized that physicists did not have a Field model like mine. I was in position completely different from theirs, I was in contradiction with them and I was alone.

I met the community of physicists for the first time owing to my studies on the matter of GPS. I tried to correspond with some of them, professors, associate professors, etc. I saw myself being overwhelmed by their careers and the mathematics they used. The truth was that I was never noticed. The fact that my English knowledge was limited was making it more difficult for me. Consequently, all of my attempts to establish a dialogue with physicists failed. Under these circumstances, I decided to withdraw and finalize this futile endeavour. To sum up, during this whole period, I was not able to find any experimental data which clearly supported my thesis on  $(c+v)$   $(c-v)$ . However, I managed to conclude something very valuable and clear. The speed of a signal sent from a satellite to the earth in GPS was different in all directions and this conclusion seemed to be in full compliance with the Field concept I had in my mind. Furthermore, the physicists working on GPS didn't have a consensus regarding signal behaviour.

## The Beginning of Alice Law:

I found myself in a long period of waiting and thinking. In this period, I was trying to understand  $(c+v)$   $(c-v)$  mathematics in a better way and discover the features that it indicated. The obvious thing was that, if I wanted to understand  $(c+v)$   $(c-v)$  mathematics, nobody else other than myself could teach it to me. I don't know why but my imagination has always guided me to consider fields and  $(c+v)$   $(c-v)$  mathematics together with the heroes of Alice in Wonderland, Alice and Humpty Dumpty. Alice and Humpty Dumpty were strolling around in the fields of my mind; they sometimes became objects, sometimes photons. They became a part of my reasoning marathons. The name of Alice Law is derived from there.

I sincerely expect you to believe that there was only one person who never left me throughout all of this. Can you guess who was it? Albert Einstein. I was constantly reading him and trying to understand his way of thinking. In this troublesome period of mine, he supported me greatly. I think I know him in the real sense. If you examine his works neutrally, you will see that he has never been after innovation, and that he has never tried to discover something new. He was a man who believed that the notions of physics which seemed to be discordant with each other had to be in perfect harmony and that the concepts appearing to contradict with each other were actually the pieces of the same whole. In line with this belief and this thought, he used his energy and mind to congregate the contradictions in physics. Not only Special Relativity theory but also General Relativity theory is the product of his struggle of consolidation. Albert Einstein also attached great importance to experimental data and always kept the compliance with experimental results in mind while composing his theories. You can feel the respect and confidence he has in the past of physics. However, he has never been closed minded about the mistakes possible to exist in physics. He applied a very simple principle which destroys the narrow world of Classical Mechanics. His principle is "In physics, always the present rights must be taken into account; the wrongs must be

omitted. It is possible to move on only this way.” He never hesitated while ignoring the concepts which he thought to be wrong in Newton’s physics. In addition to all of these, he had a different characteristic which distinguished him from all of his colleagues. Combining with his other features, this characteristic made him the most famous physicist in the world, namely Albert Einstein. This unique characteristic is his respect to and confidence in mathematics. He trusted mathematics and what it offered. Albert Einstein, in the light of what he had in his hand, went down alone into a very dark, bottomless pit by only having mathematics to trust.

Albert Einstein was showing me what to do. Why wouldn’t I do what he did to Newton’s physics to Einstein’s physics? I could take the rights and omit the wrongs in Einstein’s physics. If I believed that  $(c+v)$   $(c-v)$  mathematics was accurate, that the field concept I had was correct, it would be necessary for me to act this way. Besides, there were results in GPS which support my thesis. So, first of all, I had to find what the rights of Einstein’s physics were. Dear God. What was happening? I started to question a giant in physics.

There were two very famous physics postulates of Albert Einstein which constitute the basis of modern physics and caused the existence of Special Relativity theory. These were Relativity Principle and Universal Speed of Light. Although I wasn’t able to understand that these postulates were vital for physics, I strongly felt it. The truth is that at first glance, you may think that  $(c+v)$   $(c-v)$  mathematics and his Universal Speed of Light postulate are completely antipodal. For this reason, I have to admit having thought that this postulate was wrong. I even struggled a lot to eliminate this postulate. However, this postulate always managed to revive in my mind and defeat me. The more I studied it, the more clearly I saw that it was impossible to escape from it. I admit that without these postulates, it is impossible to explain  $(c+v)$   $(c-v)$  mathematics theoretically. That is to say, when you mention  $(c+v)$   $(c-v)$ , first of all you need to describe what  $c$  (speed of light) is. This was done by Albert Einstein perfectly in his Universal Speed of Light postulate. Without this postulate, it was impossible for me to put forward my field model thesis. The other postulate, namely Relativity Principle, was the respect, confidence and fidelity towards the past of physics. This was a magnificent postulate which keeps theoretic physics coherent and enables reaching logical assumptions. Without acknowledging these, I wouldn’t be able to do anything or to go anywhere. It was of vital importance for  $(c+v)$   $(c-v)$  mathematics whether I acknowledged these postulates. The presence of Alice Law depended on that. I can even say that if Albert Einstein was able to define these two postulates, that was because  $(c+v)$   $(c-v)$  mathematics existed in nature. I was relieved then, the first thing I had to do was visible. I was going to adopt these two postulates without hesitation. These two postulates by Einstein were going to live in Alice Law and its new mathematics. On the other hand, the mathematics that Einstein considered for Special Relativity theory was incompatible with  $(c+v)$   $(c-v)$  mathematics and I had to apply the rule. I had to take the rights and omit the wrongs. Thus, the Field Concept I had in my mind and  $(c+v)$   $(c-v)$  mathematics it possessed had their first coalescence with Einstein’s physics. That was a pretty troublesome and painful coalescence but this connection between them would never be broken.

### **Alice Law is Coming to Life:**

First things first, I needed a proof of physics regarding  $(c+v)$   $(c-v)$  mathematics. With fresh enthusiasm and desire, I started working and I found the proof in a short time. To tell the truth, this was not that difficult, as verbalizing the graph existing in my hand was enough for that. Moreover, the two postulates of Albert Einstein embellished this proof like diamonds. At that moment I had mathematical proof, theoretic explanation and experimental data supporting my thesis at the same time. Alice Law was born.

I published my research which included the proof in English (by having it translated) and in Turkish on the net (First Paper). My research contained mathematical proof for  $(c+v)$   $(c-v)$ , indicated that the mathematics belonging to Einstein's Special Relativity theory is wrong and explained that Special Relativity theory could be represented with  $(c+v)$   $(c-v)$  mathematics. Additionally, it adopted the above-mentioned two postulates of Einstein right from the start. I decided to publish my studies under the name of Alice Law since then. At that time, I believed that  $(c+v)$   $(c-v)$  mathematics represented a physics law which was not known until that day. It was true that this new mathematics belonging to Alice Law was unknown by physicists and was something entirely new, but it was wrong to consider it to be a new physics law. It was going to take years for me to understand that Alice Law is the relativity theory itself.

Now, I define Alice Law this way: the name of Relativity theory in colloquial language is Alice Law, while it is Relativity Theory in scientific language. As a person coming from outside of physics and writing Alice Law, here before you, I manifest having thought this name to fit it. As a matter of fact, I think unwittingly using a separate name like this was beneficial, since Alice Law represents the innovation and the transformation of Relativity theory.

First Paper has been a study of vital importance to me. As it includes  $(c+v)$   $(c-v)$  proof regarding the behaviour of light, Alice Law has been able to preserve its place in my mind and guided me all the time. From then on, I knew that Albert Einstein had wrong comments on the matter of Special Relativity. Thus, a physicist, even a physics professor, smiling at me, regarding me as a mad man and saying "sir, you are on the wrong track", "your theory is wrong" would not be able to discourage me or to persuade me to quit. My self confidence was growing slowly but constantly. I was learning to approach the topics in physics, to which I used to approach dreadfully in the beginning, without any fear. I realized that the careers of the physicists before whom I felt lacking were valid only up to a certain point. Since then, they were people stuck in the wrong way, representing Albert Einstein's theory. They were not aware that they had entered the wrong way.

I tried to have as many physicists as I can reach read the study I published. However, my efforts were fruitless. Perhaps they didn't read, or perhaps they read, but didn't understand. To tell the truth, I was really surprised by this behaviour of physicists. My study became an unattractive study which nobody read and was abandoned to its fate. How couldn't such a study having mathematical proof attract any attention or be understood? At that time, I couldn't understand the answer to this question at all.

This was a situation which I never thought of. It was obvious that the present method did not and would not work. I started to think how I could introduce Alice Law and have people read it. One of those days, a friend of mine working on computer animations incidentally invited me to a seminar. In the seminar, I got to know a nice software programme called Flash, used for creating animations. I thought that if I had the animation of my studies, Alice Law would be easier to understand and decided to learn Flash. I created an animation for my  $(c+v)$   $(c-v)$  study and a year after I published the first animation project of Alice Law (in 1999-2000, Alice Law version 3.0 and then Alice Law version 3.1.). The animations of the study were quite amateurish but I was finally able to transmit my thoughts. I even managed to add two instances of proof called The Time and The Dimension. I uploaded the programme I composed to a few download sites. Yes, the programme was drawing attention and being downloaded. I knew that most of the people downloading it were not physicists, but it was not that important. All in all, people were getting know Alice Law somehow. Most of the people downloading the programme were children. Can you imagine that Alice Law was already read by children before physicists knew about it? Of course I didn't know what they thought about me or about Alice Law, but what mattered to me was that Alice Law was being read and gradually spread. This was much better even though my readers consisted of kids.

Seeing that there was attention to my studies encouraged me to be more focused on animation projects. I really have to thank those little, curious, lovely internet monsters having a desire for knowledge. You always encouraged me. During those hard times I had, you helped me and Alice Law a lot.

### **Alice Law is Expanding**

In the meanwhile, Alice Law was developing incredibly as I worked on it. I started to comprehend Special Relativity in a better way. Where did the borders of Alice Law reach? Would it be possible to combine Alice Law with the famous equation  $E=mc^2$  by Einstein? These were what I thought of and tried to understand. The only thing I had in my hand was (c+) (c-v) mathematics and I realized in a short time that I wouldn't be able to obtain the equation  $E=mc^2$  by depending only this type of mathematics. I started to work on "The Principle of Equivalence" by Einstein, which made him reach General Relativity theory. This study of his was really great. I included this principle in Alice Law without hesitation. Now I understand better how right a decision it was to behave this way. Without my awareness, Alice Law expanded to such an extent that it included not only Special Relativity theory, but also General Relativity theory. Utilizing his Principle of Equivalence, I composed a chapter named "The Bridge of Physics." With this chapter, Alice Law managed to obtain the equation  $E=mc^2$  for the first time. Despite all of its lacks and even errors, this study managed to tell me what the equation  $E=mc^2$  meant. I should say that at the time when I published The Bridge of Physics, my mind was not clear at all, especially regarding General Relativity. I was seeing that I took a step into General Relativity with The Bridge of Physics but I couldn't answer the question "What does General Relativity mean?". I was going to have to work with Alice Law for a couple of years more in order to reach  $E=mc^2$  for the second time and more clearly and to understand what General Relativity was.

I decided to build a web site so that my readers could access Alice Law more easily. I opened [www.aliceinphysics.com](http://www.aliceinphysics.com) in November, 2001. Since then, I knew that most of my audience would consist of everybody curious about physics, instead of physicists. To this end, I tried to make Alice Law version 4, which I started to compose at that time, more enjoyable and attractive for them, I added games into it. The artwork of Alice in Wonderland was a real treasure for me; I decided to use John Tenniel's illustrations in the programme. My works of animation also significantly improved. I published the programme after adding The Bridge of Physics chapter and a critical story named "Alice & Sam" which criticizes the insensitivity of physicists towards Alice Law. This programme really attracted a great deal of interest and was downloaded for more than twenty thousand times.

The fact that my Flash programming skills were developing in time helped me a lot in understanding Special Relativity better. I was able to see the possibilities and make analysis by simulating various speeds. Thus, I was gradually becoming able to understand how Special Relativity was and what kind of effects could be observed in a more detailed way.

I decided to compose a newer version of Alice Law, which is Alice Law version 5. General Relativity was still lacking in Alice Law. By developing the information I discovered in Bridge of Physics which I studied earlier in the light of The Principle of Equivalence, I wrote Potential Energy chapter, which is one of the most important studies for me among all of my works. This study has cleared the path for me on the matter of General Relativity. The walls were destroyed, the fog was gone. Alice Law was advancing irrepressibly for General Relativity. This period was incredible for me. I was in a brand new place where nobody had seen or been before. Information was raining enormously from everywhere. I was seeing something new everywhere I looked and I was trying to understand them. New chapters followed each other,  $E=mc^2$ , Principle of Forces and General Relativity. I needed to tell something to my audience regarding the fields which had been guiding me right from the start. I wrote the chapters "The Field" and "The Impossible." I published the programme Alice

Law 5 by also adding some parts of version 4 in 2005. Alice Law was known by many people, then. Version 5 has been downloaded and read by thirty thousand people until today.

You may ask what was happening on the physicists' side against all of these. Especially after Version 5, many physicists heard about Alice Law. It was surprising that many of them did not care about it at all and didn't read it. Also, most of those who read didn't understand it. Perhaps there may have been people who understood it, I don't know, but as they didn't correspond with me, I didn't know about them. I should say that I received thanking and positive criticism from only a few physicists (most of them were high school physics teachers). However, they were not saying anything in their messages indicating that they understood or accept Alice Law. The thanking messages were mostly sent by my readers. This was a very interesting result which needs to be emphasized. Now, I would like to tell you about it.

I realized that people lacking any physics education were able to understand Alice Law more easily. I was able to understand the reason behind it much later. The mathematics belonging to Einstein's physics did not exist in the minds of these people. Therefore, as they did not have any barriers blocking their thoughts, they were able to understand Alice Law easily. For physicists, on the other hand, Alice Law was an obscurity; it was defying almost every principle they knew and was completely contradictory to the physics education they had. That is to say, you cannot settle the matter if you consider Alice Law with Einstein's theory. This was the involuntary attitude of the physicists. Consequently, Alice Law was perceived by them as a strange, incomprehensible and mistaken study right from the start. Regarding the old physicists, it would be too much optimism to expect them to bother downloading the Alice Law physics programme from a programme downloading website or reading it. Alice Law was hardly reaching them. Even if they had read it, I guess they wouldn't have understood as the others couldn't, anyway.

Consequently, I really do not know if there had been a physicist who had read and comprehended Alice Law until the day I wrote these lines. Sooner or later, physicists will recognize Alice Law. I have never doubted about it. The only thing I do right now is to try to shorten this period of recognition. Alice Law needs to be conveyed to the physicists in the right place, at the right time and in the right way. So, it must be read by more people and become more common. My essential objective while writing this book is exactly managing to do this, to bring them and Alice Law together more gently and fairly. My thoughts on Alice Law have of course ripened in time. My opinions and comments regarding it are much clearer now. I am able to explain it more easily.

On the other hand, with the recognition of Alice Law by physicists, a tight corner will emerge for physicists. The reason behind it is that Alice Law changes the whole logic and mathematics of Special Relativity Theory. We can easily foresee how terrible and destructive will the oncoming earthquake be, if we consider the fact that physicists make publications for almost a hundred years using Einstein's mathematics and these scientific publications will have to be changed with the arrival of Alice Law. The mathematics belonging to Special Relativity theory of Einstein has found a place for itself in almost every branch of physics. It is a pity that there is no possibility for them to protect themselves from this inevitable outcome.

I also think that the situation in which physicists are is a little bit funny. Can you imagine that they do not know about Alice Law, Special Relativity and General Relativity while many people who are not physicists have already learned them? They are only delaying the earthquake which will shatter them by keeping away from Alice Law and enlarging the damage by producing publications based on Einstein's mathematics. I sincerely say that, I have done all I can for them until today. I still do whatever I can. I have prepared publications, created programmes, built a website and put everything in it so that they can understand it. I even wrote a critical fairytale, put a rabbit on my website in case they wonder

and check it, I said "Follow the rabbit", but they didn't. They can just go there and have a look, the rabbit is still there. They didn't read it, they didn't care about it, and they didn't understand it. They deserve whatever punishment they get, because they are the only reason of this destruction. Do you know why? There is one thing definite in the experimental results of GPS: When we look from an earth centered observation frame, the speed of a signal sent from a satellite to the earth is different for each direction. If physicists are still taking shelter in Einstein's mathematics in spite of the fact that they receive these results, which are billions of data, every day and even every second, the blame is completely on themselves. They are the sole responsible if they silence the tolling bells with their own hands. It is surprising to see that most of the physicists haven't understood Einstein at all and they don't know what he wanted to tell, what the essence of his theory is.

Albert Einstein was a man who had to think in accordance with the experimental data belonging to his age, which was one hundred years ago. A very important physics experiment named "Michelson-Morley Experiment" was carried out in that period. According to the results of this experiment, the speed of the light coming from the stars to the earth is constant in every direction, independent of the rotational and the orbital speed of the earth, namely  $c$  (speed of light). Most probably, Albert Einstein had other experimental results in his hand. Thus, Albert Einstein made a comparison depending on these experimental results and concluded the following: **"The nature tells me that the speed of light is  $c$  (constant) according to all reference systems, whether in motion or not. In that case, I need a type of mathematics which will give us  $c$  equation no matter from which reference system we measure the speed of light."** After this decision process, Albert Einstein used his mind and energy in finding this type of mathematics and obtained the mathematics giving this result in the end. What happened after this point is much more interesting. This type of mathematics compulsorily led Einstein to logical assumptions like time dilation, length contraction and space contraction. Einstein accepted these concepts which were instructed to him by the mathematics in his hand as results. This is exactly what physicists have to understand. Concepts such as length contraction, space contraction, and time dilation are the sub-results indicated by his basic hypothesis; they are its extensions and these concepts can survive only if Albert Einstein's basic hypothesis is correct, as these concepts are the sub-results of the mathematics which provide the solution of the basic hypothesis. Without the basic hypothesis, they can never survive on their own.

As he didn't see any mistakes in his basic hypothesis which was guiding him and the experimental results of that day supported his basic hypothesis, Albert Einstein acknowledged the results of the mathematics he found, no matter how crazy they seemed. This is what makes Albert Einstein a great physicist. It is his fidelity and confidence in mathematics. Today, physicists mention Albert Einstein's mathematics as if it were something quite normal and easefully use these concepts which belong to his mathematics as if they were parts of a daily incident. Actually, this is something natural, but consider yourself in Albert Einstein's age. Concepts like time dilation, length contraction and space contraction were brand new notions challenging the limits of human mind for the physicists of his day. They are beyond madness according to the physics laws known at that time. Mathematics tells you "Here, you will take this", and what it shows is against everything you have seen until that day. Albert Einstein knew how to reach and take it.

Today, unfortunately physicists have forgotten what Albert Einstein's basic hypothesis is. The difficulty they have in comprehending Alice Law stems from this reason. Alice Law attacks Albert Einstein's basic hypothesis and advances by destroying it in the very beginning. For Alice Law, Einstein's basic hypothesis is meaningless. Hence, the sub-concepts belonging to Einstein's basic hypothesis are also meaningless for Alice Law, too. How could they be meaningful, anyway? They are already dead and gone with the basic hypothesis. If you consider Alice Law with the mathematics of Einstein's physics and its

concepts, of course you will fail to understand it. In Alice Law, his basic hypothesis, his mathematics and the sub-concepts belonging to it do not exist.

“We observe time dilation in our experiments. We see the mass modification. We have millions of experimental data supporting these results. Therefore, we don’t have any doubt regarding Einstein’s physics.” What could be said to a physicist talking like that? He has his head in a clamp, clenches it as much as he can. Go on clenching it, how long will you be able to go? How do you know whether these concepts exist in Alice Law or not, anyway?

After talking this much, you may think that the extraordinarily fantastic concepts in Einstein’s physics such as time dilation, length contraction and space contraction do not exist in Alice Law. In this case, I may laugh like a drain at you. Einstein’s physics and Alice’s physics competes with each other in terms of madness. You may even have to toss a coin in order to decide which of them is crazier. You need to prepare yourself for madness if you intend to learn physics, especially relativity theory.

But I think it is not right to approach physics this way. The correct way of thinking in physics is to decide which basis hypothesis is valid and to advance in the direction of the mathematics indicated by that basic hypothesis without fear. You see many new things which you have not seen before while advancing. You may find them either logical or crazy. If you look at what you see with fear, you become defeated and you cannot advance. Another rule that you must obey while advancing is that in the course on which you advance, you don’t have the right to say “I acknowledge this and that, I refuse this and that.” Because if they are the results indicated by the same basic hypothesis, you need to acknowledge them all as they are all the results of the same mathematics, facts of the same basic hypothesis. After a while, you get used to the things you see no matter how crazy they are and you start mentioning these crazy things as if they were normal. Let me comfort you by giving a few examples: Electron, electric, photon and gravity, length contraction. Don’t you think that each of them is real madness?

I will also advise something to you. If you decide to set out on such a journey one day, pay ultimate attention to building your basic hypothesis correctly or understanding what the basic hypothesis which emerge in the conclusive stage of your thinking process is. Otherwise, really terrible results may come out. All joking aside, building a hypothesis in the beginning and making assumptions in accordance with it may of course be a method in physics. But neither Albert Einstein nor I chose such a starting point. Albert Einstein was investigating why light did not accord with “**The Theorem of the Addition of Velocities**”, whereas I was working on a mathematical model on Field concept. We both utilized the experimental data of our age, got strength from them. In the end, we achieved different thoughts, different basic hypothesis and consequently different types of mathematics.

I really wish that you understand Albert Einstein well, because if you don’t think as if you were in his age, you will be unfair to him. He typed his works using a pencil and a typewriter, I wrote mine with a computer. Electronic revolution took place after Albert Einstein. He had never seen the GPS data that I have seen. Sensitive laser devices, sensitive clocks were all produced after him. Everybody has to be content with what he has and think only with it. He did the same thing. Today, Alice Law has shown that the Special Relativity mathematics he offered is wrong. But it also contained many right sides. We should notice that Alice Law owns all of its right sides.

I think we can start explaining Alice Law now. I didn’t consider explaining the Field concept I have in detail necessary while describing Alice Law, because Field Concept is all in all a theory. However, I shared this information with my audience by publishing it on my website in the beginnings of 2009. The internet is really a brilliant facility but it cannot replace books perfectly, I guess. A book is a more permanent work, even though it is on dusty

shelves. I pay attention not to go into detail in my writings on the net as I do not want to bore my audience. But here, I will go into detail to some extent. The second thing I am going to do is not to continue the mistakes. What do I mean with that? During the period in which I was working on Alice Law, I saw that some very important concepts in physics were used quite wrongfully. This situation was really annoying and it constantly restrained me from explaining Alice Law. Have you ever tried explaining a right thesis using wrong concepts? That was exactly the problem I had and this situation never came to an end. While explaining Alice Law to you here, I will show you these wrongly-used concepts.

## FIELD CONCEPT

I would like to start Special Relativity by describing Field Concept which helped me reach Alice Law. By doing this, I think you will realize something you didn't know until that day and you will understand Alice Law better as I did. The Field concept in Alice Law makes the person develop a powerful skill of sight on the matters of comprehending and interpreting physics laws, in so much that it managed to show a person coming from outside of physics that some works of the greatest physicist of the world were wrong. There is no doubt that physicists will obtain more advanced information than I did when they utilize this concept in their own studies.

The universe basically consists of matter and space. Here, with the word "matter", I am not talking about basic constituents such as electrons, protons or quarks and I consider the concept of matter with a more general point of view. Materials, by coming together in various amounts and forms in space, constitute galaxies, stars and planets. We call the bodies that materials constitute by coming together as "object", such as people, plants, things, planets, stars, even molecules and atoms. There are forces in the nature that keeps these objects together, such as electrical, magnetic, nuclear and gravitational forces.

The "Field Concept" in Alice Law utilizes mass gravitation law of Classical Mechanics in order to describe its own presence. We know about the gravitation force that an object can apply on any spot in space. Let's think this way: Let's accept the object as the center (no matter what kind of an object it is) and presume that we have written the gravitational force values that the object may apply on various spots of the space around it. In this case, we will have created a number group in space belonging only to that object. Here, we have placed the numbers within the frame of a rule, in accordance with gravitation law equation. The distance between each number and the center and the value of that number are definite. There is no limit for the place of the number we write. We can write numbers as far as we prefer, at the place we desire and as many as we can so long as they obey the rule. Thus, we have defined a space special for that object. When we move the object to the left or to the right, the number group belonging to the object will move as well, as the position of each number does not change with respect to the object. So, the name of this special space in Alice Law is "Field". Field can be described as follows:

**FIELD: All the places which the gravitational force belonging to an object can reach is the field of that object**

Thus, we have a very simple and consistent definition for Field. The numbers we have used helped us for seeing the presence of the field belonging to the object. You will immediately ask the question "Does the field really exist?". Is there anything wrong with the mathematics we use in your opinion? No, there isn't. Is there any inconsistency in the definition which was made? No, there isn't. So, you shouldn't ask this question. You should acknowledge and consider this as a mathematical fact, because it exists, at least as a fact of mathematics.

Now, let's make fields more visible for ourselves. Presume that there are two coins in our hand. Let's stick each of these coins to a sheet of paper. Let the sheets represent the fields of the coins. Let's calculate the gravitational force values belonging to the coins and write them on their sheets. When we move a coin, the sheet stuck to it will also move and the numbers on it will move together with the sheet. Now, let's superpose the sheets. In this case, both fields will be intertwined. Our field example here is two-dimensional, as the sheet of paper is actually planed. We will consider fields in space similar to the sheet example but three-dimensionally and as intertwined. Now, let's paraphrase the field concept.

### **Each piece of an object is a separate object:**

Actually, what we call “object” is not that prominent. It is a body of matter composed by smaller objects coming together. Our hands, our arms, our fingers are all parts of our body but they are separate objects at the same time. The case is the same in Field Concept of Alice Law. We can think that each piece of an object is a separate object and thus, each piece has to have its own field. While saying this, I am again taking strength from gravity law. Besides applying a mutual gravity force to each other, the objects on the earth constitute the mass of the earth by giving their masses to it and contribute to the gravitational field of the earth. The principle “each piece of an object is a separate object” stands exactly for this. Therefore, we can assume that there are almost infinite numbers of fields stemming from the same object.

Consequently, Field Concept in Alice Law has been built in the direction of the information with which the gravity law of Classical Mechanics provided us and it is in full compliance with the law in every stage. The interesting point is that we will see that Field Concept, which we can consider only as a mathematical model or a mathematical fact until this stage, has key functions in Special Relativity and generally in physics and that beyond a thought model, it constitutes a physical fact.

## SPECIAL RELATIVITY

### The Beginning of Special Relativity

In the beginnings of 1900s, physics had a very important problem. Light was thought not to befit “**The Theorem of the Addition of Velocities**” and to always propagate at  $c$  speed according to all reference systems in space. Under these circumstances, as I have previously told, Albert Einstein offered a mathematical solution which will maintain  $c$  equation for the speed of light according to all reference systems. This solution was long debated and finally was generally accepted among physicists.

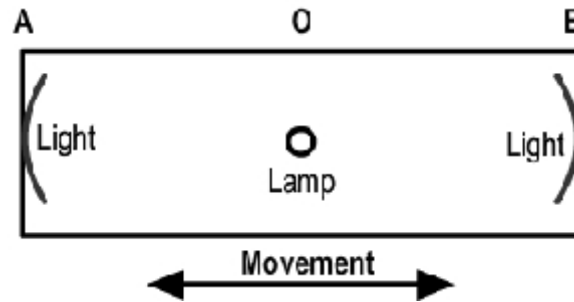
Again as I have previously stated, the logical results of this type of mathematics have been really very interesting, because these results implicated some interesting concepts which were not present until that day such as time dilation, length contraction and space contraction into physics. For instance, according to the results of this type of mathematics, the length of a spaceship accelerating up to the speed of light must diminish towards zero and its length must be zero when it reaches the speed of light. The ticks of the clock in the spaceship must gradually slow down as the ship is accelerated independently of the working mechanism of the clock. The space that the people in the spaceship see must be contracted. In fact, although this kind of concepts push the limits of our imagination and perception, mass increase which was observed in the researches made on particle physics and observations made on the life spans of basic particles support the results of this type of mathematics and as this situation is perceived as the confirmation of this type of mathematics, it has gradually gained power and secured its place in all branches of physics. The solutions and comments offered to this type of mathematics are dealt within the context of Special Relativity theory.

I have already told you that Special Relativity theory was rewritten from the beginning in Alice Law. Here, while explaining Special Relativity theory to you, I will discuss the behaviour pattern of light at the outset and show you where the mistake is done. At this stage, we will rewrite Special Relativity theory by correcting its mathematics. From that point on, our job will be easier. By moving forward in the direction of the path which the newly generated type of mathematics show us, we will rediscover the secrets of Special Relativity. Afterwards, we will proceed to General Relativity. As you see, we have a very long journey. I think you will feel excited while travelling in the world of Alice Law which involves many untouched, undiscovered things. I will act as your guide in this journey to enter this world which I incidentally discovered. If you are ready, let's hit the road.

Now take the bottle you see on the wooden shelf on your left. Pay no attention to the dust on the bottle. After all, it has been there for so long. I said “the bottles on your left”, I didn't say “on your right”. Haven't you seen it yet? You need to see the bottle, read the words “DRINK ME” on it and drink from the bottle.

### Proof of Existence for Alice Law:

**REFERENCE POINT:** Assume that there is a rectangular box in our hand and an observer in the box. Let's place a lamp at the midpoint of the box. When we consider the box lengthwise, let O symbolize the lamp and A and B points represent the two far walls of the box. Under **AO=BO** condition, when the lamp is on, the light from the lamp reaches A and B walls at the same time. If the observer measures the speed of the light in two directions, c (speed of light) will be obtained. This situation, which is valid for all uniform linear movements, is independent of the speed of the box, its movement direction and its dimensions (Figure 1).



**Figure 1**

The paragraph I have written above tells us about a physics phenomenon about which we are sure at all points. The information in the paragraph was all derived from physicists so I am not the person who confirms the presence of the case in the paragraph. We take the information in the paragraph above as **REFERENCE POINT** and we will apply to the information in that paragraph for all the logical assumptions we will make in the future regarding Special Relativity. In other words, the information in that paragraph will always tell us whether we are on the right or the wrong track.

In all versions of Alice Law programmes, I explained how Special Relativity took place and how its mathematics should be. Here, in an easier way, I will once more prove what I have previously proven.

### The Proof and the Emergence of (c+v) (c-v) Mathematics:

Let's divide the box into two equal parts longitudinally using a pair of scissors and assume that we cut the lamp into two pieces from the middle.

- Let's move both pieces towards each other and in parallel (Figure 2 - A)
- Let a spark blaze when the cut wires of the lamp touch each other (Figure 2 - B)
- Let this blaze be the source of light (Figure 2 - B)

We have made a situation description. Now, as an observer watching the situation from outside, let's take look at what happened:

- Blaze of the spark took place on X0 point and at t1 moment according to us (Figure 2 - B).
- For us, the light beams will reach the front and rear walls of both pieces at t2 moment. At that moment, the first piece is on the left of X0 position, while the second piece is on the right, according to us (Figure 2 - C).
- This situation clearly proves that THE SPEED OF LIGHT CANNOT BE c (CONSTANT OF SPEED OF LIGHT) FOR ALL REFERENCE SYSTEMS. When we examine the light beams reaching the front and rear walls of the pieces at t2 moment, we can clearly see that the speed values of those light beams are not c relative to ground reference system, as light is emitted from a single point at the same moment for both pieces of the box and the positions of both pieces are different according to ground reference system at the moment when the light beams reach the walls (Figure 2 - C).

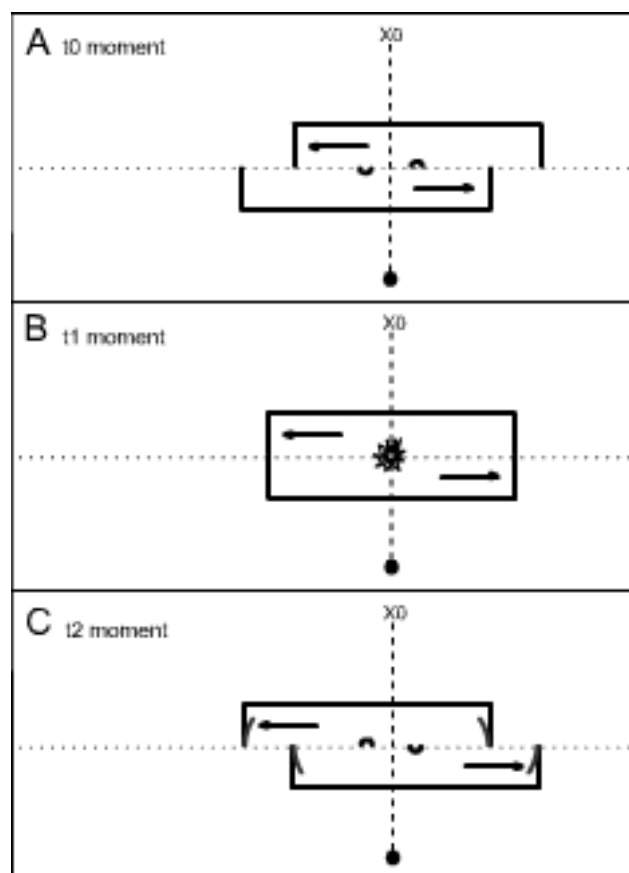
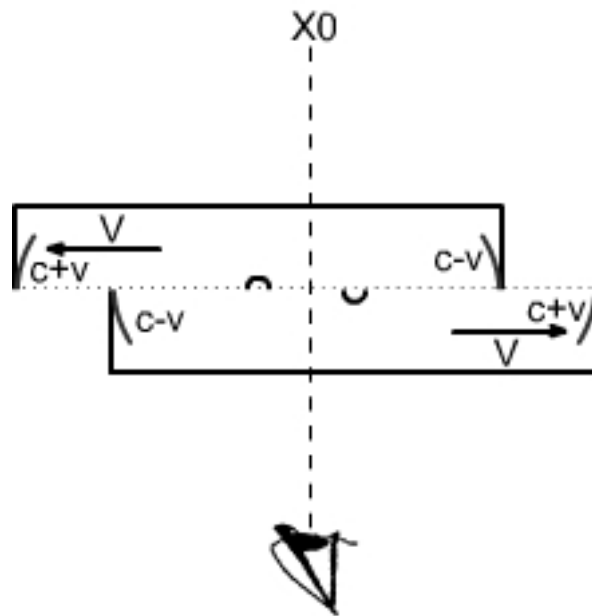


Figure 2

This conclusion definitely eliminates the basic logic that Albert Einstein had for Special Relativity theory and his basic hypothesis. The proof above describes a different type of mathematics to us, at the same time. It is not difficult at all to achieve this type mathematics, which I can call  $(c+v)$   $(c-v)$ . We already know that the observer in the box (no matter at which side he is) will measure the speed of the light emitted from the spark as  $c$ . In this case, there is only one mathematical solution. If we call the speed values of pieces as  $v$  relative to ground reference system, the speed values of the light beams moving towards the walls of the pieces have to be  $(c+v)$  and  $(c-v)$  relative to ground reference system. (Figure 3)



**Figure 3**

Physics can sometimes be this simple and this fatal. The name of such a game in chess is “checkmate in three moves.” However, there is one more rule in chess. Your rival must know the rules of chess, otherwise you cannot checkmate him. I mean you can checkmate him, but your rival does not understand that and goes on playing. I’d rather you be the ones who understand it. This proof is of vital importance.

I advise physicists to work for refuting the proof which was achieved by using space contraction, length contraction and time dilation. But there is no chance for you to manage that. I need to add something while challenging you here. If you say that the proof above and the mathematics emerging here are wrong, you will need to write what is correct, because everything is written in the proof above and the mathematics it provides. Everything necessary such as “Where are the pieces at which moment?”, “At which moment does the light reach the walls of the pieces?”, “What are the positions of the pieces according to ground reference system in this case?” must be mathematically written and indicated. If you cannot write them, I advise you to give in. From now on, I have things to say to only those who surrender to the proof given here.

Please excuse my anger. It has nearly been ten years since this proof was achieved. I know by experience how some physicists are stubborn and neglectful. Some of them may even think that they know physics. How can a person not knowing Alice Law be a physicist? I don’t have to be a physicist to be knowledgeable with physics. It does not necessarily mean that I cannot achieve something like the proof above. Physics is a branch of science which is open to everyone. Right or wrong, you can develop theories as many as you want, but just to develop theories is not enough. Correctness of a theory is not enough, either. The theory needs to be introduced and comprehended. I had to spend a major part of my energy introducing Alice Law. If I had used the time and energy I spent for promoting it for

understanding it, there is no doubt that I would know more about it. However, I know that this is not a right way of behaviour. It does not mean anything if it is known only by me.

As a person who came from outside and incidentally got involved in physics, I saw the community of physicists from a different window and I would like to mention a few things by the way. Of course you don't consider it necessary to check the works of physics giants such as Albert Einstein, James Clerk Maxwell, Charles-Augustin de Coulomb and Isaac Newton which are included in the curriculum while having physics education, because there is always a general consensus in physics. It is not enough if only one person or a group says "this is right" about something. A greater scale consensus covering almost the whole of community of physicists is necessary for the acknowledgement of a theory or a view in physics. Physics education is maintained in the direction which this general consensus approves, by conveying the information cumulated until that day. Thus, you don't suspect the pre-packed information you receive and get to work by accepting its correctness. We may even sometimes prefer memorizing instead of learning. I cannot say it's wrong, memorizing can even be a good assistant on the path to success.

However, on the other hand, if we want to be good physicists, we need to be mature enough to make a distinction between what is theory and what is reality. At least, we have to understand the reasons behind the main theories in physics. If your thoughts are not clear enough to make such distinctions, this is a huge disadvantage both for you and the person who made that research, because you can meet a proper study at any time. If the correctness of that study is not acknowledged not only by you but also by the majority of physicists, physics cannot take even one step further, because the consensus does not exist. However, the main theory of physics always needs consensus.

Here, I address the whole community of physicists and clearly state that I look for consensus. Alice Law needs to be understood and have the place it deserves. The proof for that is written here. You need to read and comprehend it. It is not enough to comprehend it, you must also raise your voice after comprehending it and say "I am here, I tell you that I have understood the proof of Alice Law and acknowledged it." You need to explain it to the people who do not understand it. That is how a consensus is constituted. There are different versions of this proof on my website [aliceinphysics.com](http://aliceinphysics.com) and Alice Law programmes. Please read them, too. I invite you to responsibility, to act a real physicist.

Are you one of those who just memorize his theory without understanding it? Or do you think that you can get away only because your branch is not Relativity Theory? Alice Law will take what you call "my studies" one by one from your hand and tear anything against it in front of your eyes. You should know that to understand Alice Law as soon as possible is good only for yourself. What can I do for a physicist who reads but does not understand? You are a physicist, but at the same time you don't understand it. You cannot see what is happening although everything is clear before your eyes. How come you understood Albert Einstein's theory and his mathematics? You need to explain it to yourself, not to me. Let's drop this subject and continue from where we have left in Special Relativity theory.

I have proven  $(c+v)$   $(c-v)$  in Alice Law in different ways. The first state of this proof was in First Paper as I have previously said. In Alice Law version 5, the sections "Relativity of Simultaneously" (Relativity of Simultaneousness) and "Relativity of Light" were particularly allocated to this proof and the proof is explained in depth. The proof here is the simplest and the shortest form I have ever found until today of the same proof. This proof clearly indicates the following: The speed of light is not  $c$  for according to all reference systems. For this reason, Special Relativity theory is not as Albert Einstein thought it to be. The proof clearly exhibits the presence of a type of mathematics which is in the form of  $(c+v)$   $(c-v)$  and tells that the mathematics belonging to Special Relativity must be  $(c+v)$   $(c-v)$  mathematics.

For your attention, while achieving the proof, I didn't use Field Concept because the proof does not need such a concept. The fact that I have incidentally reached Field Concept made me see the event taking place in the proof and took me to  $(c+v)$   $(c-v)$  mathematics and thus to this proof. If you consider the space without having Field Concept, it constitutes integrity; and the behaviour of light in this integrity, that is to say, movement of light going beyond speed of light value, will seem impossible for you. Albert Einstein thought the same way in the past. However, the case is different when we take field concept into account. You will see that the space is not integrity, on the contrary, it is a global unity and it is shared and filled by the spaces (fields) of objects. In Field Concept, you think that the space (field) belonging to each object is special to it and fields change place together with objects as objects move. When you think this way, you reason that both pieces we used in the proof had their own fields and the light beams proceeding towards front and rear walls of the pieces move in the fields belonging to them. When we consider light to move at  $c$  speed according to the field harboring it, everything is so clear and as it should be. According to us (ground reference system), it is immediately visible that the speed of the light beams moving towards the walls of the pieces cannot be  $c$ . Then you think that  $(c+v)$   $(c-v)$  mathematics has to take place naturally. The proof which was achieved is significant evidence indicating that this idea can be true.

I feel like hearing words of objection:

- Mr. Erim, you are talking about the presence of something strange, invisible and insensible which moves together with the object, fills the space and possesses a length which perhaps extends along distances of light years and of which existence we haven't even been aware until today. To tell the truth, you are talking about madness beyond madness.

- I have heard of many theories but I haven't heard any theory as absurd as this one. It is not even worth listening to. Don't listen to this mad man.

- What you call Field is an æther. Hah hah. I knew that æther existed, I did know it.

- What can the thing that you call Field be? You cannot even say what it is made of.

- Even though we think that Field exists, how can the field move while the object moves? With what are they connected to each other? What should we understand from the word "object"? Is it atoms, electrons? Are we going to talk about the field of an electron? This is a ridiculous thesis. I haven't heard such a thing in any physics theory.

- How do fields move within each other in space? They don't rub against each other, they are like ghosts. You are talking about mysterious ghosts. This is not possible in physics.

I can write down many more objections that you can have. But none of them is actually of importance. I should remind you an important characteristic of Albert Einstein. I advise that we pattern ourselves after him. Let's ask the following question to ourselves: When Einstein discovered the mathematics belonging to his own Special Relativity theory, did concepts such as space contraction, length contraction and time dilation exist in physics? No, they didn't. Was Albert Einstein supposed to be afraid and run away when he saw these concepts which emerged suddenly? He bravely confronted what he saw. He tried to understand these new concepts which mathematics showed him. He just followed mathematics.

For your attention,  $(c+v)$   $(c-v)$  does not come up with a theory, but with proof. While achieving this proof, I didn't talk about fields. The proof does not need a concept like Field Concept.  $(c+v)$   $(c-v)$  mathematics emerges as an inevitable result which our reference point show us. If our reference point is accurate,  $(c+v)$   $(c-v)$  mathematics exists in nature. If our reference point is wrong, it is definitely not necessary to talk any further. I should clearly state that if our reference point is proven to be wrong, the proof here will be mistaken, too.

Moreover, if this is achieved, a bigger task will have been completed, as in this case not only Alice Law but also Albert Einstein's theory will have been eliminated, together with its postulates, since our reference point is accurate for Albert Einstein's Special Relativity theory, as much as it is for Alice Law. I personally don't think that this can be achieved at all. Now I am asking you: Will you be afraid and run away just because this type of mathematics shows us some very strange things?

Naturally, after the emergence of  $(c+v)$   $(c-v)$  mathematics, the question about how light can behave this way arises automatically. The first thing that we should consider here is that light consists of numberless photons emitted from the source. Each of the photons which are emitted will have a different direction of movement. Everything is fine until this point. However, the proof describes us an extraordinary situation at this stage, because the proof indicates that the speed of a photon is  $c$  according to the target it will reach. Thus, although emitted from the same source of light, photons proceeding to different targets can have different velocities. This is a really very surprising situation and until today, the possibility of existence of such a situation has never been taken into account. Instead, it was thought that light moved in the space at  $c$  velocity. However, we see that such a situation exists and before us is the question "how does the photon know the speed of the object that it targets?"

There must be an explanation to this interesting behaviour of a photon (an electromagnetic wave). This is the point where "Field Concept" steps in. I used field concept to explain this way of behaviour of light and conveyed my personal thoughts regarding field concept to you. I told you how to consider a field mathematically and that we would achieve a highly consistent conception when we consider it together with the gravity law of classical mechanics. Many questions such as "what is the field made of?" and "what is the physical relation between the object and the field?" remain unanswered. How could such questions be answered? Such questions are just like the question "What is an electron?". In my opinion, the important thing is that if we consider the field as a mathematical fact as it is described in Alice Law, we can easily assume that it exists, as it is already mathematically present. Moreover, the field concept that I utilize is not a new concept for physicists. In gravity law, electrostatics and electromagnetic theory, we have been using field values belonging to objects for centuries. Fields have only come to the forefront with Alice Law and become more visible. In this case, how consistent can we be by saying "No, there is no field"? Besides, the proof here shows us that field can be more "real" beyond being just a mathematical reality.

The thing we should do from now on is only to try to understand what kind of information  $(c+v)$   $(c-v)$  mathematics provides us with, by avoiding any useless discussion. Each piece of information that we reach will take us forward on the matters of behaviour of light and Special Relativity. This is exactly what matters. I was very excited at this stage, because I was aware of the fact that after reaching the proof, I took a step into a world which nobody had seen until that day. Every conclusion that I would get to, every piece of information that I would reach was new, undiscovered and unknown. I was as if I had fallen into the rabbit hole in Alice In Wonderland. If you knew the amount of information waiting to be discovered there, you would feel the same excitement. Everybody learning Alice Law and working on it adequately can see and discover new things there. Moreover, you don't have to be a physicist for this. I still think physicists are far luckier than us. If I had had my university education on physics, I would have left them as little as possible to discover or write about.

## Initial Results of Alice Law and the Great Relief

First of all, I would like you to think about and understand how brilliant is the point at which we are, because from the moment we have reached  $(c+v)$   $(c-v)$  mathematics, the mathematics belonging to Einstein's Special Relativity theory and all of its concepts are left behind. You don't need to think that a ruler in a moving system contracts, the clocks that move can slow down, the space can shrink. We don't have to doubt about the clocks and the rulers we use. They result with same accuracy in every reference system, it doesn't matter whether they move or not.

On the other hand, if concepts such as time dilation and length contraction really exist in nature, let our new mathematics show this to us. If such concepts are confronted, we will examine and try to understand them. Besides, even if they exist, they will not be the way Albert Einstein said; their mathematics and logic will be different. What we need to do at the moment is only to follow and understand what  $(c+v)$   $(c-v)$  mathematics shows us.

If you are not a physicist, you won't have much difficulty in understanding Alice Law henceforward. But if you are a physicist, I know that this relief is not going to be easy for you at all. You have had a huge training in physics, perhaps you have upgraded it with undergraduate education and doctorate, perhaps you are now a professor and you need to put everything you have learned in last thirty years aside. However, the teachings of Einstein have already penetrated the depths of your soul. You are involuntarily conditioned to think with his logic and mathematics. I would like to warn you humbly, do not try to contemplate Alice Law possessing his thoughts. Do not make this fatal mistake. Alice Law will be incomprehensible for you; the things which you need to see will become invisible. Instead, imagine that you have never met Special Relativity and you know nothing about it. Clean out your mind for the incoming information. You know that we save data onto a present file in a computer, and the previous data thus goes away, this is what exactly you should do. I don't know whether thinking in such a way relieves you but you have to do it. On the other hand, if you are feeling sorry, I have to tell you that you are doing something very ridiculous. Have you ever had such a chance before? Think about how many things there are in Alice Law waiting to be discovered. How many physicists could have had such a chance in his career? Please leave all your doubts about the proof behind first and then enter into Alice Law.

## **Universal Clock, Universal Ruler:**

(c+v) (c-v) mathematics gives us back the concepts of UNIVERSAL CLOCK and UNIVERSAL RULER and tells that all clocks in inertial systems will operate simultaneously and ruler lengths will not change. The things that I call Universal Clock and Universal Ruler are actually Newton's physics. It would not be wrong to say that with Alice Law, Newton's physics return in a way. Therefore, we can accept any clock or ruler as our reference and interpret events according to this clock or ruler and easily tell in which time they happen. It is not important whether we are in motion or not.

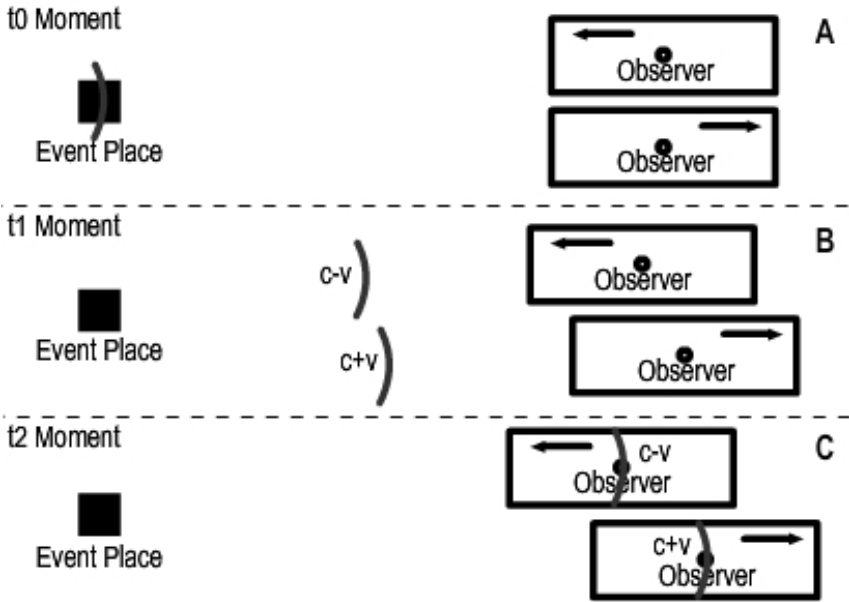
Let's look at the proof. We used the clock of the observer on the ground in the proof and decided that the light beams emitted at t1 moment would reach the front and rear walls of both pieces at t2 moment, not by seeing but by reasoning. For the observers in the pieces, there are t1 emittance and t2 arrival moments. We see that t1 and t2 moments are equal to each other for all three observers and that we can use any of the clocks in all three reference systems as our clock. There won't be any difference among the ticks of the clocks.

The situation will of course be different in noninertial systems, as the clock is affected by a force in this case. In that case, the intervals of the ticks will depend on how the mechanism of the clock is affected by the force. Even this very short example is able to show us that Alice Law enables a very clear reasoning, I guess.

**Simultaneousness Concept**

One of the things that  $(c+v)$   $(c-v)$  mathematics instantly show us is the meaning of “Simultaneousness” concept. We generally use our eyes while perceiving the events happening around us. In order to say that an event has happened, the information about that event must reach us from the event place. Light is what transmits the information to us. There is always a distance between us and the event place and the light needs to travel that distance to transmit the information to us.

Let’s imagine two vehicles with equal distances to the event place but travelling to different directions. Assume that one of them is proceeding towards the event place, while the other one is going away (Figure 4 - A).



**Figure 4**

Let’s accept the reference points as observers standing in the middle of both vehicles and call the velocities of the vehicles as  $V$ . As a matter of fact, the velocities of the vehicles do not matter but let’s assume that they travel at same speed. Let a light signal be emitted from the event place at  $t_0$  moment (Figure 4 - A)

When we apply  $(c+v)$   $(c-v)$  mathematics by looking at the vehicles from ground reference system, we obtain the following result:

- The velocity of the light signal going to the vehicle which travels towards the event place is  $(c-v)$  according to ground reference system (Figure 4 - B).
- The velocity of the light signal going to the vehicle which goes away from the event place is  $(c+v)$  according to ground reference system (Figure 4 - B).
- So, both observers will see the light signal at  $t_1$  moment but in different space positions (Figure 4 - C)

$t_0$ ,  $t_1$  and  $t_2$  moments are the same for the two observers in the vehicles and for the observer on the ground. Let’s assume that the event place above is a TV station and the light signal emitted from the station at  $t_0$  moment carries a film frame. In this case, look what has

happened: Although the two vehicles are at different distances to the event place at  $t_2$  moment, they will see the same film frame on the televisions in their vehicles.

Thus, we see that  $(c+v)$   $(c-v)$  mathematics is highly effective and determinant on simultaneousness concept. Using the example here, we can write two basic rules regarding the definition of “simultaneousness.” In fact, both rules are the same; one of them is stated according to time, while the other is stated according to position.

**Rule 1:** If the objects moving according to each other are in the same space position, they will see different moments of the events they watch.

**Rule 2:** If the objects moving according to each other are seeing the same moment of the event they watch, they are in different positions in space.

We have defined two rules above regarding Special Relativity, but there is one more rule which causes  $(c+v)$   $(c-v)$  mathematics, and it also needs to be defined here.

**Universal Velocity of Light:** The light is always propagated in empty space with a definite velocity  $c$  which is independent of the state of motion of the emitting body.

The person who stated the rule above (the physics postulate) was Albert Einstein. We see that the concept mentioned in this postulate as “empty space” refers to the special spaces belonging to objects and means the field of the object in Alice Law. This postulate provides us with the answer to the question “what should we understand from speed of light?” which we will need while explaining Special Relativity theory. It is possible to write this postulate for Alice Law as follows:

The light is always propagated in **a field** with a definite velocity  $c$  which is independent of the state of motion of the emitting body.

Of course, I will not discuss whether to write this postulate this way or the other way. I have always used Field concept in order to reach logical conclusions while trying to understand Alice Law and made great advantage of that. I recommend this to you, too. Thus, as we have understood what “universal velocity of light” postulate by Albert Einstein means for Alice Law, let’s leave this postulate keep its original form.

Now we have become capable of defining a set of rules regarding the behaviour of light in the Field. Let’s write them.

- Light moves with  $c$  constant speed according to the field it is in.
- Due to the fact that the movement speed of light is  $c$  according to the field in which it proceeds, the body which is the owner of the field always measures the speed of the light that reaches itself as  $c$ , no matter what is the speed of itself.
- Light proceeds in the field starting from the point at which it entered the field. That’s why the speed of light is independent of the source that emits it. Here, we are confirming the postulate.
- The speed of the light moving towards an object which is in motion according to us is  $C+V$  or  $C-V$  according to us. The  $V$  value here is the speed of the object that we observe according to us. In other words,  $V$  value is the speed difference between reference systems.
- **If the object is in motion, the light moving in the field of the object is at the same time being carried with the field in the direction of movement. (\*)**

(\*) This last paragraph is what will challenge the physicists most. This paragraph is the brilliant outcome to which Alice Law drags and drops us. Let me show you that the case I

have stated in this paragraph is correct right away: We can make this conclusion easily, because if the speed of light is not always constant as  $c$  relative to the field in which it moves, the object in the centre of the field cannot measure the speed of the light coming towards itself as  $c$ . Additionally, if the situation whether the object is in motion or not caused any change in the speed of the light moving in the field of the object, again, obtaining a constant as  $c$  would never be possible.

In the examples above, we observed the event in ground reference system; we could have done the opposite. That is, we could have observed the event in the vehicles. We should keep in mind that according to the observers in the vehicles, the speed of the light moving in ground reference system cannot be  $c$ .  $(c+v)$   $(c-v)$  mathematics is preserved with a great delicacy for all reference systems. We should also understand that this preservation was stated in the Relativity Principle by Albert Einstein.

**Principle of Relativity:** The same laws of electrodynamics and optics will be valid for all frames of reference for which the equations of mechanics hold good.

That's why Alice Law adopts both postulates by Albert Einstein. It is because of the existence of  $(c+v)$   $(c-v)$  mathematics in nature that Albert Einstein was able to conceive these postulates. Consequently: The speed of light is constant but it also has a relative aspect. Thus, I can say that Alice Law once more clarifies a subject. Albert Einstein thought that light did not fit to "**The Theorem of the Addition of Velocities.**" However, we see that light fits to the theorem of the addition of velocities. The  $(c+v)$   $(c-v)$  mathematics that Alice Law points at is nothing but "**the theorem of the addition of velocities for electromagnetic waves.**"

There is of course a very important task for physicists after this stage. This task is to prove the existence of  $(c+v)$   $(c-v)$  mathematics empirically. You may perhaps be surprised or even angry if I tell you that the  $(c+v)$   $(c-v)$  proof here does not need to be empirically verified, but this is the fact. The proof does not need empirical verification. Nevertheless, the empirical verification of this mathematics as soon as possible is important.

The proof given here only tells us what the ideal mathematics is, in other words, offering us the general rule of the law. Is there any chance to conduct an experiment hundred percent in compliance with  $(c+v)$   $(c-v)$  mathematics? To tell the truth, I don't know. Personally, I think that the experimental results would be confirming  $(c+v)$   $(c-v)$  mathematics but a little deviation from ideal mathematics would also be the case. I also hope that the statistics about the deviation amounts which were obtained give us information about fields. For empirical verification, I have proposed a number of experiments in Alice Law programmes. I hope physicists take notice of them and conduct these experiments. In the experiments I have used rotating reference systems in the experiments I have proposed, thus force effect is also involved. If  $(c+v)$   $(c-v)$  mathematics is proven on uniform linear movement, this will be far more valuable. If the proof explained here were turned into an experiment, I guess it would be great. Besides, planning and conducting other creative, reasoned and well designed experiments are also necessary. These experiments are going to give shape to the future and the general theory of physics and carry us further. With these experiments, Alice Law will reveal its own secrets and let us move further in itself.

## Time Dilation

I have told you that if concepts such as time dilation really exist, the new mathematics shall show it to us. Time dilation exists in Alice Law, too. One of the most interesting results of  $(c+v)$   $(c-v)$  mathematics is that it demonstrates that each reference systems moving relative to each other will perceive the speed of the occurring events differently. However, the time dilation and its meaning in Alice Law are not like they are in Einstein's mathematics.

Let's think of an open-air movie. Let there be three observers watching the movie. Assume that one of them is moving towards the screen, the other one is standing still and the third one is moving away from the screen. The movie will be playing at a different speed for each observer. The observer moving towards the screen will perceive that the movie is playing fast; the one standing still will perceive that the movie is playing at normal speed, while the observer moving away from the screen will perceive that the movie is playing slowly. Now, let's see how and why it happens.

Let's think that we are in a factory, looking at a belt conveyor. A machine is putting one bottle per second on the belt. If we look at the bottles moving on the belt, we will see that the distances between bottles are equal. If the belt is accelerated, the distance between two bottles on the belt increases, while it decreases if the belt is decelerated. Now, let's assume that the speed of the belt is fixed, but a worker pushes the conveyor. In this case, the situation will be similar. If the worker pushes the conveyor with the same movement direction of the belt, the distance between the bottles will increase. If he pushes it in reverse direction, the distance between the bottles will decrease.

A very similar situation takes place in  $(c+v)$   $(c-v)$  mathematics. Let's go back to our movie metaphor. In cinemas, 24 movie frames are played per second. Let's see how the situation for the observer standing on the front is. The screen puts 24 frames per second with equal intervals in the field of the observer who is standing still. The frames reach the observer by moving with  $c$  speed in the observer's field. Thus, the standing observer watches 24 movie frames per second.

Let's consider the observer moving towards the screen. The screen puts 24 frames per second in the field of this observer, too. However, the field of this observer is coming towards the screen. Therefore, the distance between the two frames put on his field decreases. The frames get closer to each other. The frames which are left on the field reach the observer by moving at  $c$  speed. But for this observer, playing speed of the movie is not 24 frames per second. For instance, it increases to 25 frames per second. Thus, we see there are two effects. Playing speed of the movie has increased for this observer and consequently, total running time of the movie has decreased.

Similarly, 24 movie frames are put in the field of the observer moving away from the screen, too. However, the distance between two frames put in the field of this observer increases. For instance, playing speed of the movie for the observer moving away from the screen becomes 23 frames per second, instead of 24. Playing speed of the movie has decreased for this observer and consequently, total running time of the movie has increased.

The speed of light is so huge that we never feel these effects in our lives. For observing these effects clearly, it is necessary to be travelling at high speeds. At speeds close to the speed of light, these effects are immense. Here, we see that time contraction and time dilation are perceptions for the observers. But seeing these effects only as perceptions would be wrong.

Space travels will definitely fatal unless the effects of Alice Law are taken into account. A space rocket moving towards a star and travelling at a speed closer to the speed

of light will confront an incredibly dense light energy which can even destroy it. Let me put it clearer with an example. In the example of belt conveyor, let's assume that the worker pushes the belt in the opposite direction of the movement of the belt and say that his pushing speed is almost equal with the speed of the belt. In this case, the bottles will be lined up adjacently or even overlapped. On the other hand, the belt is in motion and the bottles put on the belt are moving towards the end of the belt. The bottles will reach the end of the belt collectively and at the same moment. Alice Law indicates that the same will happen to the spaceship moving towards a star at a speed closer to the speed of light. The immense energy intensified in time in a limited area on the field of the spaceship will come with the speed of light and hit the spaceship. The spaceship cannot escape from being hit by decreasing its speed or stopping, as this fatal light ball has already accumulated on the field of the ship and is coming towards it at  $c$  speed.

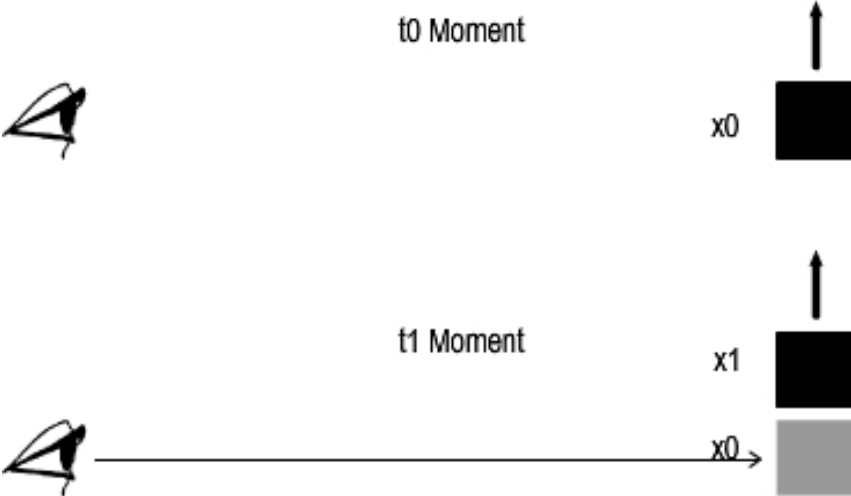
In the examples I have given, I've always dealt with the event place at a single position. However, we perceive most events in three dimensions. The information reaching us from the event place generally comes in three dimensions. Therefore, if dealt in three dimensions,  $(c+v)$   $(c-v)$  mathematics can naturally cause more complex results and perceptions. I need to state that Alice Law is new for everybody, including me. Not a bit of information comes by itself without working on it. One of the latest studies I have had is about The Ghost and The Spring effects. This subject has been concerning me for a long time. I understood how important these effects were as soon as I penned them and created animations for them in my computer. I even remember myself murmuring like "Wow! Look at this." I would like share this information with you.

### The Ghost and The Spring

The things we see do not always reflect reality. The best example for this would be the sky. We know that the actual positions of the stars that we see are much different than what we see in the sky, as the light reaching us set off its journey millions or even billions of years ago. While the light beams travel these colossal distances, some of the stars emitting those beams may perhaps have already vanished and the others may have translocated. But we still see them as if they were still there. That is to say, there are actually two things: What we see and what is real.

While interpreting the environment around us in our daily life, distances are too small for the speed of light; when we see an event which has occurred, we feel as if it was occurring at that moment. However, in reality, there is a time period between the actual happening moment and the moment at which the information about reaches us, although very little.

Due to the fact that there is always a distance between us and the event place, the actual position of the object and the position we see may not always be at the same space coordinates. Let's take a look at the figure below. If the vision of an object travelling at  $V$  speed which is at  $x_0$  position sets off towards us at  $t_0$  moment, we see it at  $t_1$  moment. The object will be at  $x_1$  position at  $t_1$  moment, but we will see its vision at  $x_0$  position (Figure 5).



**Figure 5**

Therefore, we have to mention two concepts here:

- The position of the object which we perceive (**Ghost**).
- The actual position of the object at the moment we perceive it (**Spring**).

As you see, I named them as "Ghost" and "Spring". The things we see are always images while perceiving our environment, namely, Ghosts. They can never be Springs. We see that the differentiation between Ghost and Spring positions depends primarily on movement speed and secondarily on the distance between object and us. Ghost and Spring effects we observe at high levels of speed will naturally be relatively bigger. Besides, when we think that these effects inevitably need to be combined with  $(c+v)$   $(c-v)$  mathematics, it is not difficult to see that really interesting results will come out.

I don't know whether there are special names for these concepts or whether astronomers have worked on these concepts or not. I think that Ghost and Spring positions

have to be taken into account especially in astronomical observations, as every comment or calculation made without taking Spring effects into consideration will be deficient and incoherent. The simplest example can be the fact that an extraordinary gravitational force anomaly cannot be explained without taking Spring effects into account, as the gravitational force is applied not by the Ghost but by the Spring. The place of a moving Spring can only be determined by calculation as it is not seen. However, there are a lot of obstacles which hinder us from making an accurate calculation. Although the velocities of the celestial bodies in space are not that high, the distances are huge, which makes it harder for us to determine the location of the Spring accurately. We don't know the exact distance of a star to us; we can just make a guess about it. This guess has a fallibility of a few centuries or millions of light years at best.  $(c+v)$   $(c-v)$  mathematics will of course be involved; it has to be taken into account in the calculations made for determining the location of a Spring. To sum up, I think that determining the locations of the Springs belonging to celestial bodies requires a long and hard work.

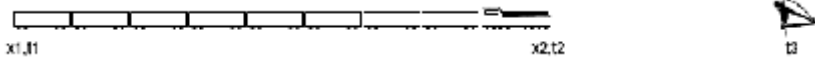
In our daily life, as a result of the great speed of light, we don't need concepts such as Ghost or Spring at all. The ghost of an object is like adherent to the Spring of the object. However, when speed is involved, and if this speed is very high, the locations of the Ghost and the Spring diverge. Depending on the speed between reference systems, some changes occur on Ghost visions we see.

I have previously mentioned some effects that  $(c+v)$   $(c-v)$  mathematics cause and used metaphors such as cinema screen and television station. However, our examples were two-dimensional, just like the cinema screen. We can think of the vision of a planet as the cinema screen for a spaceship proceeding towards that planet; but the screen here also has a depth. That is to say, the information package constituting the Ghost is mostly three-dimensional. We can see this situation more clearly in the sky. Pieces of information setting off from different places at different distances in different times combine and reach us as a big information package. We can consider this information package as a single and huge ghost. So, it is not necessary for a ghost to have only one Spring; we can have a number of minor Springs constituting a main Spring. Anyway, let's not ramble. The fact that the information package reaching us is three-dimensional causes an effect which we can call space deformation. We can also call it space contraction. That is what I would like to explain you.

## Space Deformation

There is a concept in Alice Law which we can call space contraction. However, this concept does not mean that an object becomes smaller as it gains more speed. On this matter,  $(c+v)$   $(c-v)$  mathematics describes us a different space contraction notion and additionally a space expansion notion. Now, let's see how it happens.

Assume that there is a train standing still with a number of wagons and an observer is looking towards that train.



If we call the rear point of the train  $x_1$ , the vision setting off from  $x_1$  point at  $t_1$  moment at  $c$  speed according to the observer will combine with the vision setting off from  $x_2$ , which is the front point of the train, when it arrives at  $x_2$  point at  $t_2$  moment and the new vision package will reach the observer at  $t_3$  moment. Here, both the train and the observer are inert relative to each other; the observer will perceive the train in the vision package which has reached him without any deformation at its original dimensions.

Now, let's consider the case in which the observer moves towards the train at  $V$  speed. In this case, we see that the arrival time of the vision, setting off from  $x_1$  point at  $t_1$  moment towards the observer at  $c$  speed relative to him, at  $x_2$  point, which is the front point of the train, will be longer than our previous example, since in this case, the speed of the vision will be  $c-v$  according to the train. Do you know why? I have told you how important thinking with Field Concept is. The visions proceeding towards the observer travel on observer's field. If the observer is in motion relative to the train,  $(c+v)$   $(c-v)$  mathematics will take place. The speed of the vision travelling on observer's field will be  $(c-v)$  in this case. Therefore, when the vision setting off from  $x_1$  point reaches the observer by combining with the vision setting off from  $x_2$  point, there will be a difference on the vision package. This difference causes the observer to perceive the train longer. The train has lengthened; an event which we can call space expansion has taken place.

Let's assume that the observer moves away from the train. In this case, the speed of the vision setting off from  $x_1$  point towards the observer at  $c$  speed relative to him will be  $c+v$  relative to the train. The arrival time of the vision setting off from  $x_1$  point at  $x_2$  point will be shorter in comparison to our first example. In this case, the observer will perceive the train as contracted in the vision package reaching him. Thus, space contraction has taken place.

In the examples here, the train is inert, while the observer is moving. In the case where the observer is inert and the train is moving, the event will be similarly perceived by the observer. The important thing is the speed between the reference systems.

I have created a number of computer animations in Alice Law version 6 on the matters of Space Contraction and Space Expansion. These animations have been completely composed in the light of information which  $(c+v)$   $(c-v)$  mathematics provides us with.

## On Special Relativity

We have seen how Special Relativity is with Alice Law. You can find further information regarding this matter in Alice Law programmes. I don't know whether Alice Law version 6, on which I am working now, will have been finished by the time I publish this book. I have spared this version only to Special Relativity. I hope you read it.

Of course there are still a lot of things to do on the matter of Alice Law. Among them, the adaptation of  $(c+v)$   $(c-v)$  mathematics to electromagnetic theory is in the lead. Besides, physics needs to be cleared of the mathematics which Albert Einstein considered for Special Relativity. This long and hard work belongs to physicists. I know that hard times are to come for physicists due to this reason. The compulsion of creating a consensus on Alice Law is the leader among those hard times. It doesn't exist even now. I hope the fact that a person coming into physics from outside encourages them and they overcome this great darkness in which they have fallen as soon as possible.

There are a lot of lessons to be learned from Alice Law. In my opinion, the biggest mistake of physicists is ignoring the bells tolling in GPS. I assure you that Albert Einstein had no mistake on this matter. If GPS results confirmed Albert Einstein's mathematics, which was of course a possibility, I wouldn't dare publishing Alice Law because I would know that I was wrong. And again, if Albert Einstein had had GPS results, he wouldn't have proposed the mathematics he had in his mind, because he would have seen that it was wrong. Physicists will be surprised to see how they have made such a mistake when they look to the past years later.

I would like to warn our physicist friends. There may be people proposing that Albert Einstein's mathematics can be applied on uniform linear movements but not on rotating reference systems, don't pay attention to them. Physics can never take any patch. There will also be people proposing that  $(c+v)$   $(c-v)$  mathematics and Einstein's mathematics have the same result. Don't waste your time on them, either. There is a huge disappointment waiting for them. I am warning you about these because I have seen them all. You may also come across publications on  $(c+v)$   $(c-v)$  mathematics as there are such publications. However, please be aware that the logic behind the  $(c+v)$   $(c-v)$  mathematics told in Alice Law is different. The circumstances under which  $(c+v)$   $(c-v)$  mathematics can take place have been explained in Alice Law in detail.

We see that Alice Law is as simple as it is surprising. A detailed type of mathematics is not even necessary to explain its main theory. However, this great simplicity is only the smiling face of Alice Law. There is a brilliant and unique mechanism somewhere in the depths of nature giving Alice Law this simplicity. Alice Law is the first step taken into this strange world. It is the way which will take you there.

## GENERAL RELATIVITY

I started to spend more time on General Relativity as Special Relativity became clearer in my mind. Naturally, the first thing I needed to decide was how to interpret General Relativity. I mean, Albert Einstein naturally considered General Relativity with his own mathematics. In his thoughts, concepts such as time dilation and space contraction were nested in General Relativity. For this reason, he handled General Relativity within Mass-Space-Time-Speed concepts and thought it to be under the influence of the mathematics he had. As a result, he thought that mass bent the space around it and had influence on time. The space-time duality which is frequently mentioned in General Relativity stems from this thought.

For Alice Law, it was evidently visible that General Relativity could not be the way Albert Einstein thought, as there was a different mathematics for Special Relativity. Alice Law was explicitly telling me not to think in the way he did. Indeed, the General Relativity in Alice Law is different. However, Alice Law has utilized Albert Einstein's thoughts and principles to a great extent also here. Moreover, let alone pursuing a different way, it has proceeded on the track exactly which he instructed. During this proceeding, it has just not used his mathematics.

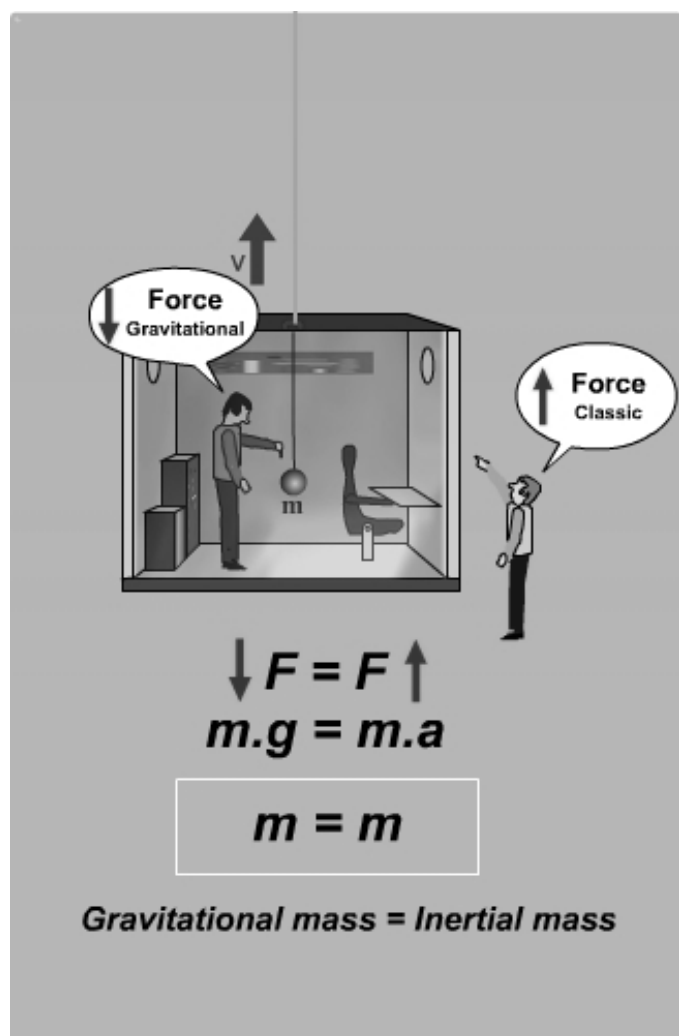
The Principle of Equivalence is the study by Einstein which took him to General Relativity. Alice Law includes this principle without any debate and the General Relativity theory in Alice Law was completely built on his Principle of Equivalence.

## Principle of Equivalence

As I have previously told, Achieving  $E=mc^2$  equivalence with Alice Law was my primary objective. I have made several researches regarding energy equivalences using (c+v) (c-v) mathematics. However, after a while, I saw that (c+v) (c-v) mathematics was not enough for explaining energy equivalences. In order to get over this blockage, I decided to take the study named Principle of Equivalence by Albert Einstein as basis and proceed that way.

I would like to give a brief summary of Albert Einstein's Principle of Equivalence, considering that some part of my audience may not have heard about it. In his age, physicists thought that the mass of a subject being affected by gravity force and the mass of the subject resisting the pushing force when we push it were different concepts. Albert Einstein proved that these two masses were actually the same thing. In his study, he gave the following example to make an explanation:

There is a man in a box at a place in space where there is no gravity. The box is hanging on a rope in space and the rope is being acceleratingly pulled upwards by something, but the man in the box does not know that. He is able to stand in the box and thus thinks that he is in a field of gravity. He hangs an object to the ceiling of the box with a rope. He again thinks that it is gravity forces which affect the object he has hung. On the other hand, an observer watching from outside sees that the box is being pulled upwards and tells that the force affecting the object hanging on the rope in the box is a classical impulsive force. The observers make different comments about the same force owing to their conditions. Depending on the fact that the comments made by both observers have to be true from their points of view, Albert Einstein has stated that the mass belonging to the object is single. You can find this research by Albert Einstein in various places in detail, including my website [www.aliceinphysics.com](http://www.aliceinphysics.com) an Alice Law version 5.



Another very important result of this research by Albert Einstein is that it points out that the light beams passing by celestial bodies change their directions due to gravitational force. Discovering that such an effect exists and observing this effect empirically gave birth to General Relativity theory.

## Principle of Forces

I have written Principle of Forces by utilizing Principle of Equivalence. I can say this principle is the twin of Principle of Equivalence. Principle of Forces shows that we can interpret any force as gravitational or impulsive. Principle of Equivalences has already pointed that out but the emphasis was lacking. Principle of Forces provides this emphasis. The interpretability of a force in both ways greatly contributes to understanding and judging phenomena of physics and reaching new solutions. Using this principle, we can perceive some events which we couldn't perceive before and explain the things which haven't been explained until now. The principle leads us to new lands to be discovered regarding the reason behind gravitational force and its operating mechanism; it contributes to us while understanding how energy equivalences take place.

Let's see how big changes can Principle of Forces cause in our thought system. Depending on this principle, we can easily claim the following: in the same way we think that the force applied on us by the earth is gravitational force (Force direction is from top to bottom), we can interpret this force reversely and think that the earth is pushing us from bottom to top. Thinking this way, that is, interpreting the force reversely, the mathematics of gravity law belonging to Classical Mechanics does not change. However, significant changes take place in our way of thinking. That is to say, when we think reversely, we see that the direction of gravity force changes. It is no longer from top to bottom, but from bottom to top. Moreover, it loses its remote effect attribute; we see that from now on, a physical contact is necessary for the gravity force to have an effect. This is not within the borders of Classical Mechanics anymore; it is somewhere different. It is the other side of the mirror. Here, it is necessary to understand that phenomena of physics need to have explanations when we think reversely, just like they have explanations in Classical Mechanics. Let's give an example:

We know that two objects having different masses will fall down at same speed in a frictionless environment. However to explain the reason for it is impossible in Classical Mechanics. Whereas, at the moment we apply Principle of Forces, it will be seen without any necessity for further explanation that this is what it has to be.

A falling object accelerates in the direction of gravitational force. Let's apply Principle of Forces on a falling object. If we accept an object falling towards the ground as an inert reference system, other objects under the upward repulsive force of the ground will move with a gradual acceleration according to this reference system. The mathematics of gravity law will be completely preserved in this acceleration.

Let's assume we are on a railroad and there is a locomotive coming towards us with an acceleration of  $9.81 \text{ m/sn}^2$ . If we don't want to be hit, we have to run away from the locomotive at least with an acceleration of  $9.81 \text{ m/sn}^2$ . If our acceleration is smaller, the locomotive will hit us, if it is bigger, we will move away from the locomotive. Let's think of a similar situation using Principle of Forces, that is, reversing our way of thought. Isn't what a helicopter hanging in the air does same with the locomotive example? The helicopter applies on itself an upward power of  $9.81 \text{ m/sn}^2$  in order to escape from the earth coming towards it (from bottom to top) with an acceleration of  $9.81 \text{ m/sn}^2$ . It can keep this distance only this way.

There are two forces for an object hanging in the air in Classical Mechanics: Gravity force and lifting force applied in the opposite direction. Let's take a plane flying at a fixed altitude. In Classical Mechanics, we will think this way: The plane applies an upward force on itself in a way which will balance the gravity force that the earth applies on it, thus preserves its altitude. On the other hand, Principle of Forces tells us something different. When we interpret gravity force reversely, namely upward, there is no force applied on the plane

belonging to the earth, as there is no physical contact between the plane and the ground. For the plane, there is only the lifting force applied on its wings. Thus, we see how different can this principle make us think. We also see that there are a lot of questions that need to be answered. In my opinion, this is exactly what makes this principle particularly valuable. We see that we are already at the place where the gravity force law belonging to Classical Mechanics can take us. Since Newton, no process beyond this point has been made. However, Principle of Forces provides us with a number of new windows through which we can look, make research and investigate. Perhaps one day, we can understand the actual reason behind gravity force.

Now you will ask the question “although there is no physical contact between the earth and the moon, how can the moon stay in the orbit of the earth, how can we explain this?”. I don’t have to answer this question, of course. I have already published my efforts for explaining this subject in Alice Law version 5. This of course does not mean that my explanations efforts written there are correct. However, I would like to state that Principle of Forces indicates that there may not be a gravitational force between the earth and the moon, or at least such a possibility may strongly exist. In my opinion, this is a topic which physicists should consider.

I personally think that Principle of Forces is a very powerful assistant especially for theoretical physicists and that the notion of force has a more consistent structure with this principle. To sum up, the principle says that any force can be considered to be gravitational or impulsive. The relationship between the gravity force and the impulsive force in Classical Mechanics has been examined in Alice Law. I think that other forces in physics that abide by inverse square law such as colour and electrical charge forces will be in this principle in the future.

Finally, I would like to show you with a simple example how dramatic results can considering this principle cause. Think yourself as a physicist and assume that you have dedicated your life for finding a particle called “graviton” which is presumed to be the responsible for gravity law. However, Principle of Forces points out that there is a strong possibility that this particle may not even exist.

We will see what kind of extraordinary things this principle has achieved in the next chapter named “Potential Energy.”

## Potential Energy

Let's put a little object on the rails of a railroad and take the case in which the locomotive hits that object. The locomotive will lose speed at the moment of crash, although minor and this will not be enough to stop it; it will continue its movement without stopping. Thus, we can say that the object on the rails leaves its place with a speed value at the moment of crash. The effect of the force and the acceleration of the object take place at the same time.

It was very important for me to understand that the effect of the force and the acceleration of the object take place at the same moment, because when we apply Principle of Forces on the objects on the ground, the outcome that the objects must have an INEVITABLE and UPWARD speed value on Y axis, due to the force affecting them from bottom to top, although they do not move, will emerge.

The chapter named Potential Energy in Alice Law version 5 was born after I understood that a speed value had to exist on Y axis and concentrated on force concept. I see this study of mine as the second most important one following the proof of (c+v) (c-v) mathematics. In this study, the matter of mathematically expressing this speed vector is explained.

Alice Law has unrestrainedly come to the forefront after I wrote Potential Energy chapter. What  $E=mc^2$  meant was obvious from that moment on and I wrote  $E=mc^2$  study in Alice Law version 5.

I think that Potential Energy Chapter is a very important study which paves the way for physics. This study describes the way which shows how energy equivalences take place, on which factor the lifespan of the particles with high energy depends, how mass increment occurs. This chapter, at the same time, clearly depicts the relationship between acceleration and speed.

$$\text{Classical Force}$$
$$F = m \cdot a$$

$$m \cdot a = \frac{1}{2} m v^2$$

$$v = \sqrt{2 a}$$

$$\text{Gravitational Force}$$
$$F = m \cdot g$$

$$m \cdot g = \frac{1}{2} m v^2$$

$$v = \sqrt{2 g}$$

Alice Law version 5 - Potential Energy Chapter

Due to the fact that I wanted to spare this book mostly for Special Relativity, I involved Potential Energy chapter to a limited extent. You can check that study on my website or in Alice Law version 5.

## **$E=mc^2$**

We have seen that if there is a mistake in the basic theory, the outcome is destructive. This destructive effect was also the case for  $E=mc^2$  equivalence. For sure, Albert Einstein considered this equivalence within his own Special Relativity mathematics and its logic. However, we have previously seen that the mathematics he considered was wrong. So,  $E=mc^2$  mathematics also had to be changed in Alice Law. This change did not take place in its result equivalence, but in the logic of obtaining it. Alice Law indicates that the total energy of an object is the sum of kinetical and potential energy belonging to that object. Within this logic, the meaning of  $E=mc^2$  equivalence is simplified eminently.

## **$E=mc^2 = \frac{1}{2} mc^2$ (Kinetical energy) + $\frac{1}{2} mc^2$ (Potential energy)**

I would like to animate the meaning of this equivalence in your mind. Assume that we are on a planet. Let the size of the gravity force acceleration that affects us be  $g = \frac{1}{2} c^2$  (This size is  $g=45.000.000.000.000.000 \text{ m/sn}^2$ ). If we are on such a planet, our energy will be  $E=mc^2$ . There is definitely no chance for us to survive under such acceleration. The basic substance forms that we know cannot survive under this force, either. This is a really enormous force. The force that the earth applies on us is only  $g=9.81 \text{ m/sn}^2$ .

I have already told that all objects on the earth have an upward speed vector. We will also have an upward speed while we are on that planet. That speed value will be  $c$ . Thus, our kinetical energy becomes  $E=\frac{1}{2} mc^2$ . Our total energy will be the sum of these two energy types.

$$E=\frac{1}{2} mc^2 + \frac{1}{2} mc^2 = mc^2$$

Let me give another example. We are travelling on a wagon on the rails. A locomotive behind is constantly pushing us. We are getting faster, but the locomotive keeps pushing. Moreover, it pushes more strongly as time passes. Finally, we get so fast that our speed value becomes  $c$ , which is the speed of light, but the locomotive still keeps pushing us. Besides, its pushing force has already reached  $g = \frac{1}{2} c^2$ . We cannot go any faster as we have already reached  $c$  speed, which is the limit. On the other hand, it is impossible for us to escape the power that is pushing us, as the locomotive keeps pushing, regardless of whether we like it or not. In this case, our energy will be  $E=mc^2$ .

Was Albert Einstein wrong by saying "Mass is Energy"? I would like answer this question partially with my own opinion. In fact, the thing that we call "mass" is not completely clear in physics. If you take a look at the definitions of mass ([wikipedia.org](http://wikipedia.org) would be a nice source for that), you will see that they are numberless (which is, I believe, another big defect in physics; In my opinion, only one definition for mass can be valid); but we can at least think this way on this matter: Objects can be constituted with various forces. For instance, in order for a neutron to settle into the core, it must absorb energy. When a neutron leaps out from the core, the energy it has absorbed is thrown away from the core. For the composition of a neutron or another basic particle, a certain amount of energy must be absorbed. Therefore, there is a large amount of energy absorbed in what we call substance. For this reason, it is not wrong to say "Mass is energy." However, this expression can never state what  $E=mc^2$  means as clearly as Alice Law does.

## On General Relativity

As Albert Einstein proceeded in the way that his own mathematics showed him, he thought and perceived relativity differently. As it can be seen, Alice Law depicts a different General Relativity. Nonetheless, both theories are built upon the same principle.

I would like to state that what I tell in General Relativity chapter of Alice Law can be regarded as theoretical, as there is no clear proof as in Special Relativity; there are only principles. I am a person who believes that basic principles belonging to physics need to be logically stated. For sure, these logical statements will eventually point out a type of mathematics. However, I don't think that healthy principles can be achieved only by utilizing mathematics.

For me, Principle of Equivalences is actually a physics proof. We can also consider and handle this principle of his as a theory. Hence, the way we regard physics is important. What we call theory does not involve certainty, but it involves evidence. As I think that his Principle of Equivalences is correct and regard it as a proof, I don't need to look back and have committed all of my works on General Relativity. What I am trying to say is: Is Principle of Forces is correct in your opinion? Is Potential Energy Chapter correct? You will decide for yourselves about these questions. How to consider these principles is also up to you.

We see that Alice Law does not identify a special type of mathematics exclusively for General Relativity; on the contrary, it utilizes the mathematics of Classical Mechanics. There is no direct relation or interaction between the  $(c+v)$   $(c-v)$  mathematics that we have seen in Special Relativity section and the principles I have explained under General Relativity title. For this reason, General Relativity should not be considered within Mass-Space-Time-Speed dimensions as Albert Einstein did.

We also observe that Alice Law takes a step forward and take us to strange places in General Relativity too, as it does in Special Relativity. In my opinion, the best thing that Alice Law achieved in General Relativity is that it creates a visible bridge between Classical Mechanics and General Relativity. The three principles here, namely Principle of Equivalences, Principle of Forces and Potential Energy, constitute a unity of power which can meet the theoretical needs of physics, when handled together.

Here before you, I would like to thank Albert Einstein, particularly for two things. Firstly, take a look at this book from beginning to end. Is there any place which does not involve him? Alice Law really owes him a lot. Secondly, if he hadn't accommodated you beforehand, how could I dare to explain the crazy things I have told in Alice Law to you?

Now, I will show you with a physics proof that the earth pushes us from bottom to top.

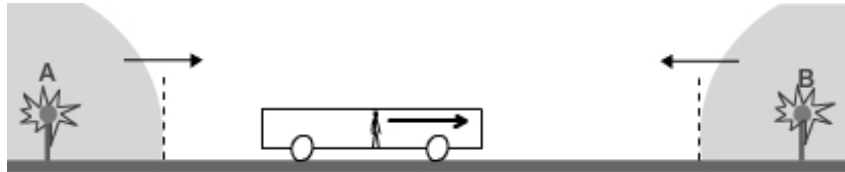
If the force that affects the rope in Alice's hand was not upwards, the standing direction of the ball tied to the rope would not be vertical and downwards.



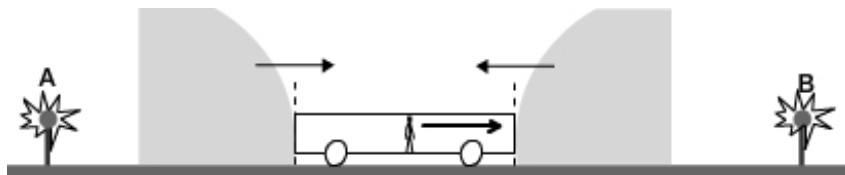
## FIRST PAPER

I wanted to republish this study here which I have written years before. You can find the original text on my website [aliceinphysics.com](http://aliceinphysics.com). I will only discuss its essence here. The problem was:

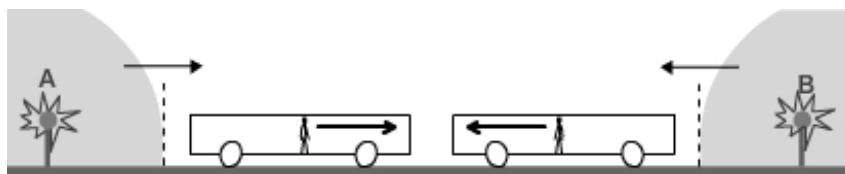
There are two light sources at A and B points on the ground. A vehicle travels from A to B at a constant speed. There is an observer at the midpoint of the vehicle. Our aim is to enable the observer in the vehicle to see that both lights have been turned on at the same moment. While the vehicle is travelling on the road, we must turn on the lights at such a moment that this can be achieved.



In order for the observer to see that the lights are turned on at the same moment, we see that a precondition must be provided. This precondition is the following: In order for the observer in the vehicle to see that both lights are turned on simultaneously according to OUR REFERENCE POINT\*, the lights propagating towards the vehicle must reach the front and rear parts of the car at the same moment, since under these circumstances can the observer see that the lights are turned on at the same moment. Therefore, the situation providing these circumstances will tell us at which moment to turn the lights on.

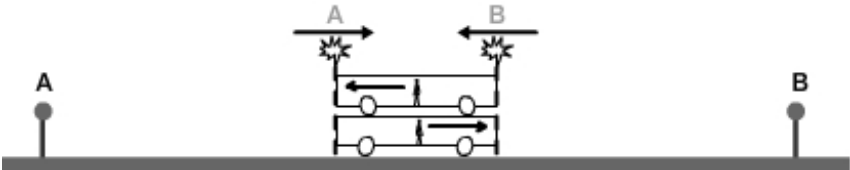


We are utilizing symmetry principle in order to remove any doubt that may occur while reasoning and handle the situation with two vehicles travelling oppositely to each other. According to ground reference system, the events taking place will be simultaneous for both observers.

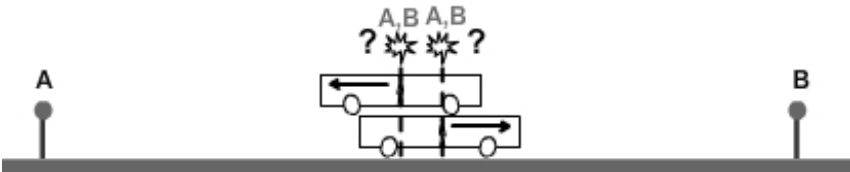


(\*) See "Proof of existence for Alice Law"

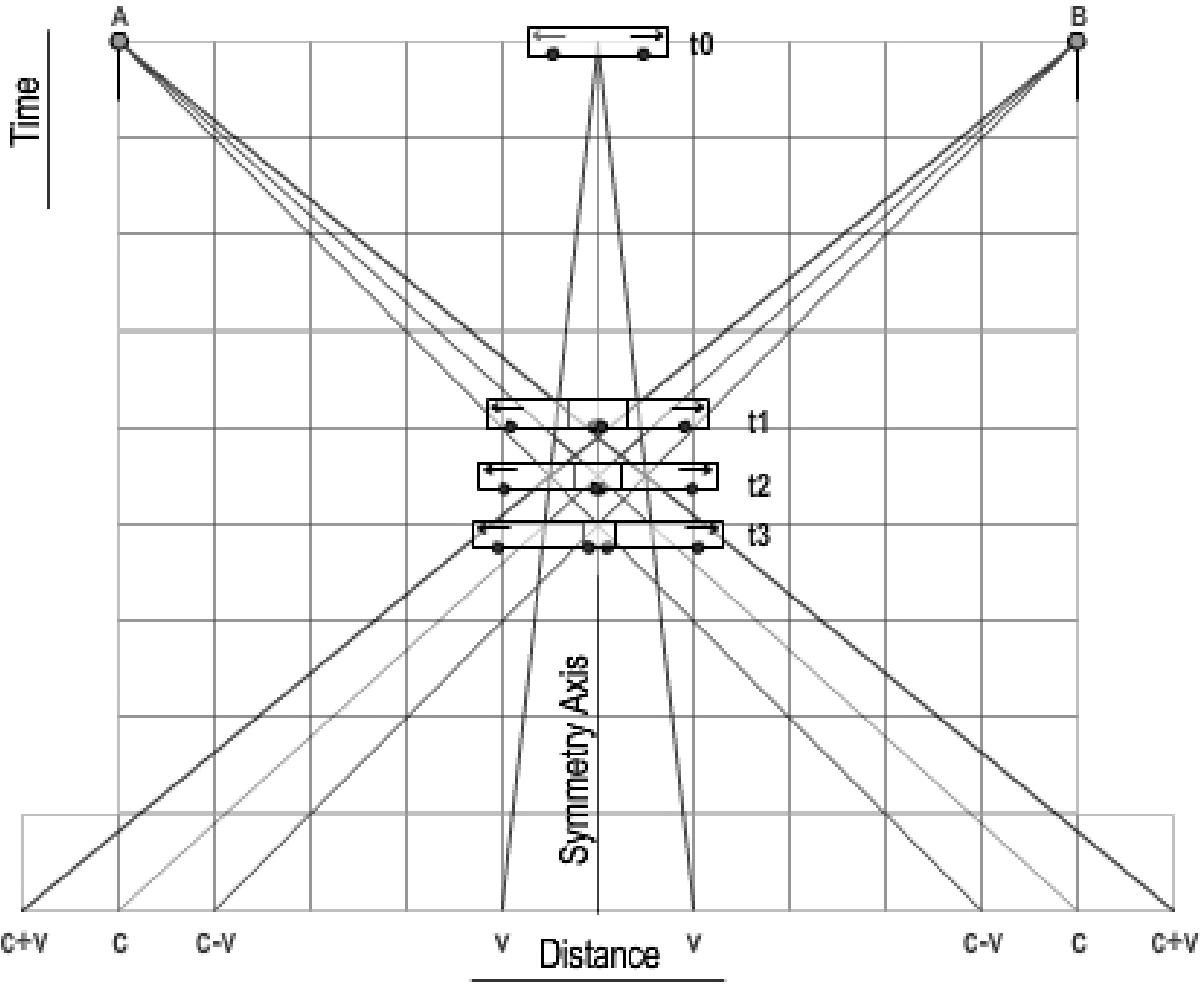
Let's consider the solution to this problem using Albert Einstein's mathematics first. Let's approach the situation in which the necessary circumstances are maintained, that is to say, let the light beams emitted from A and B reach the front and rear parts of both vehicles at the same moment.



Let's think of the next stage after this moment. When the light beams reach the observers at the midpoints of the vehicles, both vehicles will be at different space coordinates. At this moment, the question regarding where the light beams according to ground reference system are is unanswered. This situation indicates that Albert Einstein's basic hypothesis was wrong; a solution to get over this blockage cannot be produced by utilizing Albert Einstein's mathematics.



There is only one situation which provides the solution for the problem. The lights must be turned on when the midpoints of the vehicles are on the symmetry axis. The graph compulsorily tells that the behaviour of light is different from what is known and gives us a different mathematics. This graph is the mathematical proof of  $(c+v) (c-v)$ .



The obligation of turning the lights on at the moment when the midpoints of both cars are on the symmetry axis provides the necessary evidence. The speed of the light reaching the vehicles becomes  $(c+v) (c-v)$  according to ground reference system.

You can find detailed information on this proof in Alice Law version 5.

## **Mistakes inside Physics**

Principle of Equivalences, Potential Energy and Principle of Forces altogether have revealed a lot of points for me which had been in the dark until then. For instance, thanks to them, I have seen that how mistakenly some concepts in physics are used. Some of those mistakes are so big that you will be amazed when I tell them. However, I desisted from publishing this chapter at the eleventh hour. The reason for that is the effects of Alice Law will be immense, anyway. I didn't want to constrain them by adding this chapter.

## **Acknowledgements**

First of all, I would like to thank you for reading Alice Law. I have told you what I see and understand in Alice Law. Actually, what I have got to tell is not over yet. There are a lot of things I need to explain regarding Alice Law. I will write them one by one if fate so decrees.

If you have understood Alice Law, please let me know about your presence. Let me know about you so that we can altogether see that there is a consensus being formed regarding Alice Law and physics is preparing to take a step forward. Please write to me.

Han Erim

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