Smulsky, J.J. The Theory of Interaction. – Ekaterinburg, Russia: Publishing house "Cultural Information Bank", 2004. – 304 p. (In English).
http://www.ikz.ru/~smulski/TVEnA5_2.pdf.

The second page of a cover.

From this book you learn:

- What the all consists of
- What is truth
- What is time
- How the bodies interact
- How the elementary particles move
- Whether A. Einstein is right
- How you can calculate the accelerator of the particles
- Whether there is an ether
- What moving star we can see
- How to enter a "black hole" and to leave it
- Whether it is possible to move with a superluminal velocity
- How to reach stars and to return on the Earth for 5 years
- What is the velocity of gravitation
- According what laws the Mercury moves
- How to calculate the movement of many bodies precisely

The third page of a cover

"For a long time still I spoke to some friends-physicists: attend and construct an electrodynamics, which based on the dependence on the force from the velocity of a charge … And here, at last, I see fulfillment of this problem … In verity of your way I practically do not doubt."

23.01.95. Prof. V.V. Cheshev, doctor of philosophic sciences.

"…I want to mark an extreme simplicity and clearness of your idea, which now is not being meeting in the scientific publications. … For the first time there is a good scientific work about the relativity theory and about the laws of electromagnetic interaction, it is your book".

25.02.95 B.A. Bondarev, physicist.

"Your book I read till 3-00 to night … I was especially pleasant by the explanation of an invariance of mass, and I completely agree that the interaction of two charged particles depends on their relative velocity."

17.10.95 A.A. Dolgov, physicist.

"In youth I have spent a lot of time trying to find a discrepancy at Einstein, as I could not accept the conclusions following from his theory. It seems to me by scientific speculation, with what I continue to consider it. Unfortunately, I could

not to find such discrepancies, therefore I have left occupations by physics and have concentrated the efforts on engineering, in which all is kept on sanity of sense of a reality. It was possible for you. Your conclusions are not simply convincing, they inspire and give hope."

1.03.96. Prof. V.V. Bugrovsky, doctor of technical sciences.

"... This is a monstrous crime before a science that "the censorship" does not pass works, in which the gravitation is investigated without application of Einstein's hypotheses. For you it was necessary anew to discovery that at one time it was offered Heaviside, though you go in your book much further, than Heaviside."

04.06.96. Prof. Oleg D. Jefimenko.

"Prof. Smulsky is arguably the most outspoken and distinguished opponent of Special Theory of Relativity; his contribution honours for Special. Rel. Let ".

G.Walton, SRL - 1997.-V.1, N.3.-P.61.

---

1 page

To truth seeker of XX centuries is devoted

---

3 page

RUSSIAN ACADEMY OF SCIENCES
SIBERIAN BRANCH
Institute of the Earth's Cryosphere

J.J. SMULSKY

THE THEORY of INTERACTION

The responsible editor
Prof. S. P. Gabuda,
The doctor of physics-mathematical sciences

The corrected and added Russian edition of 1999.

EKATERINBURG, RUSSIA
PUBLISHING HOUSE "CULTURAL INFORMATION BANK"
2004

---

4 page

UDK 530.12: 531.18; 537.8
BBK 22.313
S52

The Theory of Interaction / J.J. Smulsky. – Ekaterinburg, Russia: Publishing house “Cultural Information Bank”, 2004. – 304 p.
ISBN 5-7851-0524-1

In the monograph it is justified the calculation approach of electromagnetic and gravitational interactions of moving bodies, in which the space, time and mass do not depend on the movement. The main concepts of mechanics are analysed and determined. From the experimental laws the main electrodynamic equations are derived. Having solved them the force of interaction of two moving bodies is founded and the trajectories of their movement are obtained. The forces of action of the different form bodies are derived and the methods of account of the elementary particles accelerators are given. The applicability boundaries of the Theory of Relativity are considered and the light phenomena are represented at movement of the receiver and source. The interactions of two bodies at nearluminal velocities are investigated. The results of modern observations of superluminal movements are analysed, the methods of superluminal particles production are represented and the perspectives of their use at the unasteroidal defense of the Earth and for cosmic flights to stars are shown. The problems of the gravity velocity propagation, precession of the Mercury perihelion, the substance accretion and the Sun energy are considered. The problem of many bodies is represented and for special cases the accurate solution is obtained.

The book will be useful for inquisitive senior pupils, students, teachers of physics and physicists.

Figures. 59. References: 128.

The referees:

The doctor of physics-mathematical sciences, professor V.F. Novikov
The doctor of physics-mathematical sciences A.V. Shavlov

Scientific Council of the Institute of the Earth’s Cryosphere, Siberian Branch of Russian Academy of Sciences authorizes it for printing.

ISBN 5-7851-0524-1 © J.J. Smulsky, 2004

5 pages.

CONTENTS

FOREWORD.....8

PREFACE TO RUSSIAN EDITION……9
NOTATION……15

CHAPTER 1.
THE WORLD AROUND AND BASIC PRINCIPLES OF ITS DESCRIPTIONS……19

1.1. Physical theory and description of a nature……–
1.2. World around and its description……20
1.3. Change of objects of the world around and its measure……20
1.4. Size of objects and its measure……22
1.5. Unhypothetical description of the world around……23

CHAPTER 2.
THE BASIC PRINCIPLES OF THE MECHANICS……25

2.1. Movement of objects and its measure……–
2.2. Interaction and its description……26
2.3. Definition of force at different interactions……29
2.4. About dependence of force on acceleration……31
2.5. Force and energy……35

CHAPTER 3.
THE BASIC PRINCIPLES OF THE DESCRIPTION OF THE CHARGED AND MAGNETIZED BODIES INTERACTIONS……39

3.1. Interaction of motionless charged bodies……–
3.2. Problems of the description of interactions of moving charged bodies……41
3.3. Change of force of interaction in case movement of charged body and magnet……43
3.4. Derivation of the Maxwell's equations from experimental bases……46
3.5. Differential equations for forces……51

CHAPTER 4.
THE INTERACTION OF TWO MOVING CHARGED POINT BODIES……53

4.1. D'Alamber equation for point charge……–
4.2. Solutions of the D'Alamber equation……55
4.3. Interaction force of two bodies……65
4.4. Law of a relative movement of two objects……68
4.5. Integration of the law of a movement……70
4.6. Transition to classical mechanics and TR mechanics……75

CHAPTER 5.
THE TRAJECTORIES OF TWO BODIES MOVEMENT……80

5.1. Classical trajectories……–
5.2. Time of movement on trajectory……82

5.3. Trajectory at final velocity of interaction propagation……86
5.4. The hyperbolic trajectories……90
5.5. The parabolic-like and ellipse-like trajectories……92
5.6. The trajectories of repulsion and trajectories for full period……96
5.7. Asymptotic solutions……99

CHAPTER 6.
THE FORCES OF INTERACTION OF VARIOUS BODIES ON MOVING CHARGED PARTICLE……102

6.1. Interaction of the charged rectangular plate on a particle……–
6.2. Particle movement velocity in the capacitor……107
6.3. Interaction force of the charged line segment and velocity of particle……109
6.4. . Force of moving charged particle action on magnet……112
6.5. Force of action of point magnet on a charged particle……114
6.6. Force of action of conductor with current on a charged particle……114
6.7. Simplified forces disregarding forms of the acting bodies……118

CHAPTER 7.
APPLICATION OF THE METHOD OF FORCES FOR CALCULATION OF DIFFERENT INTERACTIONS……121

7.1. Energy of interaction, which depends on velocity……–
7.2. New integrals of movement……124
7.3. Method of velocity summation……126
7.4. Calculation of particles movement in accelerators……133
7.5. Calculation of results of the Bucherer's experiment……138

CHAPTER 8.
APPROACH OF FORCES AND RELATIVISTIC METHOD……142

8.1. Ether, Theory of Relativity and Lorentz's transformations……–
8.2. Essence of transformations……145
8.3. Description of interaction of moving non-stationary systems of bodies with help of the transformations……150
8.4. About transformation of the wave equation……155
8.5. Aberration and Doppler's effect……160
8.6. Speed of light between moving bodies……163
8.7. Principle of the relativity and its meaning……167

CHAPTER 9.
NEARLUMINAL MOVEMENTS INSIDE OF "BLACK HOLES"….169

9.1. Concept of a "black hole" as a ratio of parameters……–
9.2. Objects of micro- and macrocosm as "black holes"……171
9.3. Trajectory at a variation of radial velocity……173
9.4. Trajectory in case of different transversal velocities……175

9.5. Trajectory at change of interaction parameter……176
9.6. Multangular orbits……...178

CHAPTER 10.
SUPERLUMINAL MOTIONS……179

10.1. Examples of superluminal motions……..–
10.2. Observation and interaction at superluminal velocities……184
10.3. Acceleration of particles bunches up to superluminal velocities……189
10.4. Multistage accelerators of superluminal particles……192
10.5. Acceleration of single particles up to superluminal velocities……193
10.6. Perspective of application of superluminal motions……196

CHAPTER 11.
GRAVITATIONAL INTERACTIONS……199

11.1. Velocity of gravity propagation……–
11.2. Mercury perihelion precession……204
11.3. Interaction of many bodies……211
11.4. Exact solution of the axisymmetric many bodies problem……220
11.5. Trajectories of movement at interaction of several bodies……223
11.6. Central-symmetrical accretion……230

DEFINITIONS OF THE BASIC CONCEPTS……240

EPILOGUE……244

REFERENCES……255

APPENDIX 1. The program in MATHCAD environment of integration of the movement equations for ellipselike orbits……261

APPENDIX 2. Initial parameters of trajectories and meaning in final calculated points……263

APPENDIX 3. The program in MATHCAD environment of integration of the equations of nearluminal particle movement……269

APPENDIX 4. Trajectories of movement inside the "black holes"……271

APPENDIX 5. The dimensionless periods of orbits and their radiuses of pericenters……301

All consists of two:
world around and its understanding.

The author 1998.

Smulsky Joseph J.

THE THEORY of INTERACTION

The book is issued in author's edition
Is authorized for printing by Scientific Council of the
Institute of the Earth's Cryosphere of Siberian Branch of RUS

Copyright of a cover: L.J Smulsky.

Abstract

The monograph is devoted to electromagnetic and gravitational interactions. They are traditionally considered in the Special and General Theory of Relativity (TR), accordingly. The modern understandings of micro- and macrocosm are based on the TR. From the moment of its creation and up to present the critical consideration to TR has not be disappeared. Such known scientists as academicians: A.N.Krylov, S.I.Vavilov, V.F.Mitkevich, Hungarian academician L.Yanoshi; professors: many others in the former USSR and others countries did not accept TR, because it of offered the abstract world with paradoxical properties, which contradicted human logic.

At the end of 19 centuries one was found out, that the interaction of the charged bodies depends from their movements. H.A.Lorentz has proposed a hypothesis, according to which the variation of interaction force occurs because of change of the sizes of a body with its movement of in imagined ether. However the interaction of two bodies depend on their velocity in relation one to another, but do not depend on any absolute velocity. Therefore A.Einstein it was necessary to alter a H.A.Lorentz's hypothesis of and in a result the description of interactions of moving bodies is constructed as the of description of interactions of motionless bodies. At this case the bodies parameters (space, time and mass) change on Lorentz's transformations. It is the first line of development Electrodynamics, on which the modern physics is founded.

The second line ascends to Oliver Heaviside's works from 1888 and based on final velocity of propagating of interaction. Owing to it, the interaction of two bodies, which relatively moved each other, is not equall to interaction of motionless bodies with the same distances between them, as the fields, which express this interactions, are retarded. If the fields to move on interval of time, which is necessary for propagating of interaction between bodies, they will express the interaction of relatively moving of bodies. In 1997 the book of the professor of Western Virginia University Oleg D. Jefimenko is issued, in which the all relativistic results he deduces within the framework of the classical Mechanics and Electrodynamics, grounded on retardation of fields. This method can completely replace the special and general TR.

As against first two methods, the author of the monograph is developed a method, which is completely within the framework of the mechanics. As a result of the analysis of development of electromagnetism he has come to a conclusion, that force of interactions of moving each other two charged or of magnetized bodies depends not only on distance between them, but also depends on heir relative velocity. The force expression the author has derived basing on the experimental laws of electromagnetism. This method he has developed on various cases. He solved a number of new tasks and the new results are received. They show, that our world is arranged not how followed from modern physics, which based on TR. This method is ready to use and the present book is devoted to its statement.

TR had forced power interaction on our world outlook and on the bases of our knowledge. The space is distorted and becomes isolated per itself. Mass turns to energy, and time passes a matter in the entrails of stars. There is the trip on time in future and past. All this is not from fantastic novels. It is themes of fundamental researches. The theoretical physics has resulted to mystical perception of world. Therefore for author there was a difficult task of understanding of bases of our knowledge. It was necessary to find out, whether it is possible with space, time, velocity, mass, force, energy etc. To make above-stated manipulations? What in our knowledge is an random hypothesis? Also whether there is that, what is firm foundation and eternal truth?

Therefore in the first chapter the bases of our knowledge are considered. All, with what the person is connected, the author has shared into two parts, from which first is the environmental world, and second is perception, understanding, i.e. Description the environmental world. The environmental world the person cannot changes by his meditation, but the description of the environmental world he constantly changes and improves. It is considered what is space and time. It appears, it is result of comparison of properties of subjects: their sizes and variability, with properties of the standard bodies. The author comes to a conclusion, that only reliable knowledges is those, which we receive as a result of comparison of different properties of bodies with the of appropriate properties of the standard bodies. Representations, which based on the assumptions are inevitable be rejected at occurrence of the new facts. Therefore it is necessary aspired do not enter hypotheses into the description of environmental world.

In the second chapter the concepts of the Mechanics are considered: velocity, acceleration, action, force. It is shown, that the laws of the Mechanics are our method of the description of interactions. In a nature objectively there is an interaction between bodies. It is displayed in acceleration of body. The interaction we describe by help of force. Therefore the acceleration and force is equal to accuracy of coefficient, which we call mass. The author gives the proofs, that other dependence of force on acceleration cannot be. Established. Space, time and mass cannot depend on velocity of a movement, therefore the introduction of such dependence in the TR was a mistake.

In the third chapter it is shown that the interaction between moving charged bodies depend on velocity. It is grounded the definition of the basic equations of electrodynamics as results of measurement of forces of interaction between bodies. Their mathematical derivation is given. The differential equations for force are deduced from the experimental bases.

In the fourth chapter these equations are solved for interaction of two point bodies and the expressions for force of interaction of two moving bodies are received. The law of force is checked up in different limiting cases.

In the fifth chapter the movement two of interacting bodies is considered. The velocities, time of a movement and trajectory of bodies are calculated. In the micro- and macrocosm the bodies move on these trajectories. They give a new explanation to the observable phenomena.

In the sixth chapter it is considered the interaction of the charged and magnetized different form bodies on a moving particle. It is shown as the approach to apply if the electrical and magnetic field strength is only given.

In the seventh chapter the method of forces is applied for calculation of different interactions, including for design of accelerators of elementary particles. Here also it is shown wide opportunities of the method, which allow to solve a number of tasks which are not giving in to the decision by other methods.

In the eighth chapter the mutual relation of the method of forces with the TR method is considered. The light phenomena between moving bodies including the phenomenon aberration and Doppler's effect are calculated. The expression for velocity of light is received at relative movement of a source and receiver.

In the ninth chapter the nearluminal velocity trajectories of movements are considered. The attracting from infinity stone will fall on the Earth with velocity of 11 km/s, on the Sun - 500 km/s. And there are such massive and dense stars, at which velocity of fall will achieve velocity of light. Their name are as "black holes". The objects of the macrocosm can give each other such velocities.

The tenth chapter is devoted to superluminal movements. They are observed in space, they have place at entry the space particles in an atmosphere of the Earth and on the Earth. The process of observation of superluminal object is analysed and it is considered its interaction. A lot of attention is given to acceleration of elementary particles up to superluminal velocity and prospects of application of superluminal movements are of also considered. For anti-asteroid protection of the Earth and for interstar flights.

In the eleventh chapter the gravitational interactions are investigated. It is considered the Mercury perihelion precession problem and is also shown, that there is no basis the velocity of gravity propagation to consider equal to light of velocity. The numerical algorithm of solving many bodies problem is stated. The axisymmetric many bodies problem is precisely solved and its results are compared to the numerical decisions with interaction three and four bodies. The task center-symmetric accretion of substance is solved and the problems of the Sun energy are considered.

In the monograph the clear representations about the world are given: there is an environmental world and is its description. The description is created by men, and the environmental world does not change our reasoning. This position allows simply to decide a problem of a reality of various theoretical representations. It is impossible to create the world by assistance of thought. The world can only be studied. It is impossible under words: space, time, mass, force, energy to mean some substations. These concepts, entered by the person, describe the properties of the environmental world. Spatial-temporary continuum, distorted world, many-dimensional world and etc. Are the mathematical forms of the description of the world, which are used in TR. At other way of the description of the world these concepts are not applied.

Many constructions of modern physics are based on a mismatch of calculated parameters with observable ones. In the monograph it is shown, that the developed method is more exact than TR one. Therefore it is disappeared necessity for a number of physical constructions. It is necessary the large work on creation of the new description of the environmental world. Thus it is necessary to aspire to not enter any hypotheses. Then the people will have precise and clear knowledge of the world, which will allow them to organize their life consciously, purposefuly and optimumaly.

Everyone, who will read the book, will be convinced, that in the world there is nothing afterworld and incognizable. Also there is much to us unknown and interesting. The author believes, that the mystical understanding of the environmental world will leave in inexistence together with the Theory of Relativity and prime target of a mankind will become the aspiration to new knowledge about the world. The nearest tasks are: proceeding the superluminal particles and reconsideration the Physics, since experiences of E. Rutherford. The considered in the book ways of acceleration of particles up to superluminal velocities the author offers to the physicist-experimenters. And for the theoretical analysis calls to use method of forces, which author has demonstrated on examples of various interactions. The many bodies problem is decided in the book and examples of superluminal movements are important for development of space.

The book is written by simple language, the material is explained in many respects illustrations and, despite of an abundance of the mathematical proofs, quite accessible inquisitive students. The given in the appendices trajectories parameters and the computer programs allow to use it as help and manual. The monograph is useful by all, who is interested by the fundamental problems of physics and nature.

You can copy the book in a PDF-format here:
http://www.ikz.ru/~smulski/TVEnA5_2.pdf.

Address: Prof. Joseph J. Smulsky: Inst. of Earth's Cryosphere, Malygina Str. 86, 625026, Tyumen, Russia. Fax: (345-2) 68-87-87, Tel.: 68-87-14.