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**Unzicker, Alexander**

**From Big Bang to mania. The absurd hunting for the world formula. (Vom Urknall zum Durchknall. Die absurde Jagd nach der Weltformel.)** (German)

Berlin: Springer. viii, 330 p. EUR 23.32/net; SFR 36.50 (2010). ISBN 978-3-642-04836-4/hbk; ISBN 978-3-642-04837-1/ebook

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The present book, which is neither a textbook nor a research monograph, discusses some of the recent developments in modern theoretical physics from an epistemological, rather critical and admonitory point of view. The target of the author's criticism is the frightful, rapidly growing avalanche of new models, theories, and mathematical constructions in quantum physics, particle physics, astrophysics, and cosmology, each of which allegedly serves the purpose of finding the Grand Unified Theory (GUT) in physics, the so-called "Theory of Everything", or the ultimate "World Formula". In the author's opinion, most of these constructions have become extremely abstruse, partly even ridiculous, and far from being related to reality. Lacking solid verifiability, these high-flown theories have led parts of theoretical physics into the realm of pure speculation, fantastic vision, and perhaps even into the artificial world of science fiction. In this way, as the author argues, several branches of modern theoretical physics seem to have got off their course, thereby steering into a scientific blind alley and running into the danger of gambling away the intellectual authority of traditional theoretical physics. Evidently, the author's honest concern is that the desperate, meanwhile absurd hunting for the "Theory of Everything" has made parts of theoretical physics degenerate into a dubious fashion of largely esoteric character, or into some sort of sporting competition, with modern sophisticated mathematics replacing the indispensable experimental work in physics as a natural science.

In the book under review, the author depicts these developments from the viewpoint of an insider. His criticism is not malicious, but highly individual, witty, biting, and, certainly provoking. The description of the underlying physical material is professional and sufficiently profound for a non-expert reader, enhanced by many entertaining anecdotes as well as by numerous hints for further related reading.

Perhaps many active researchers in the field, especially some of the leading authorities, might feel affronted by the authors individual, daring and highly provoking viewpoint. However, both the author's opinion and his ardent argumentation should set every fair reader thinking, including many involved mathematicians, who often try to justify their mathematical research by pointing to its possible applications in modern theoretical physics.

Overall, this book is a vehement pleading for physics as a natural science, in its best tradition, and a friendly reminder of the ethical precept that research in physics should be perceived as a privilege that is inseparably coupled with human responsibility, search for a true theoretical understanding of the world, and practical consequences in daily life.

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Finally, it should be pointed out that A. Unzicker's critical book on the current state of theoretical physics is not the first memorandum of this kind. Especially with a view toward the rampant number of new (super-) string theories and their generalizations, and with regard to the ousting of the empirical method in physics by fancy mathematical, totally hypothetical models, numerous renowned physicists have already raised doubts in the past, among them being such experts like Sir Roger Penrose, Gerardus 't Hooft, Sheldon Glashow, Julian Barbour, Lee Smolin, Peter Woit, Lawrence Krauss, João Magueijo, Sir Martin Rees, and many others. They all are extensively quoted in the present book, too.

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- 00A30 Philosophy of mathematics
- 81T99 Quantum field theory
- 85A99 Miscellaneous topics in astronomy and astrophysics
- 83F99
- 81-03 Historical (quantum theory)
- 83-03 Historical (relativity)
- 85-03 Historical (astronomy and astrophysics)
- 00A08 Mathematical recreation
- 85A40 Nonrelativistic cosmology
- 97A20 Recreational mathematics