## (manuscript)

## The infinite and contradiction: The history of mathematical physics by dialectical approach

keywords: infinity, contradiction, history, mathematical physics, dialectic, reverse mathematics

## 1 Introduction

"Philosophy of science without history of science is empty; history of science without philosophy of science is blind." [1]

E. Wigner said, "The first point is that the enormous usefulness of mathematics in the natural sciences is something bordering on the mysterious and that there is no rational explanation for it." [2] This quotation from the pioneer of quantum physics shows that elucidating the essential nature of mathematics is important for the natural science.

## References

- Lakatos, I.: History of Science and Its Rational Reconstructions, pp. 91–136. Springer, WADA-memo Address is required (1970)
- [2] Wigner, E.P.: The Unreasonable Effectiveness of Mathematics in the Natural Sciences. Indiana Univ. Press, WADA-memo Address is required (1967)