Critical Analysis of the Mathematical Formalism of Theoretical Physics. V. Foundations of the Theory of Negative Numbers TEMUR Z. KALANOV, Home of Physical Problems, Pisatelskaya 6a, 100200 Tashkent, Uzbekistan — Analysis of the foundations of the theory of negative numbers is proposed. The unity of formal logic and of rational dialectics is methodological basis of the analysis. Statement of the problem is as follows. As is known, point O in the Cartesian coordinate system XOY determines the position of zero on the scale. The number "zero" belongs to both the scale of positive numbers and the scale of negative numbers. In this case, the following formallogical contradiction arises: the number 0 is both positive number and negative number; or, equivalently, the number 0 is neither positive number nor negative number, i.e. number 0 has no sign. Then the following question arises: Do negative numbers exist in science and practice? A detailed analysis of the problem shows that negative numbers do not exist because the foundations of the theory of negative numbers contrary to the formal-logical laws. It is proved that: (a) all numbers have no signs; (b) the concepts "negative number" and "negative sign of number" represent a formallogical error; (c) signs "plus" and "minus" are only symbols of mathematical operations. The logical errors determine the essence of the theory of negative numbers: the theory of negative number is a false theory.

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