

Reconsidering Bohr's reply to EPR

Halvorson, Hans and Clifton, Rob (2001) Reconsidering Bohr's reply to EPR.

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Abstract

Although Bohr's reply to the EPR argument is supposed to be a watershed moment in the development of his philosophy of quantum theory, it is difficult to find a clear statement of the reply's philosophical point. Moreover, some have claimed that the point is simply that Bohr is a radical positivist. In this paper, we show that such claims are unfounded. In particular, we give a mathematically rigorous reconstruction of Bohr's reply to the <i>original</i> EPR argument that clarifies its logical structure, and which shows that it does not rest on questionable philosophical assumptions. Rather, Bohr's reply is dictated by his commitment to provide "classical" and "objective" descriptions of experimental phenomena.

Subjects: Specific Sciences: Physics: Quantum Mechanics

ID Code: 445

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Deposited On: 17 October 2001

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