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The hole argument: its role and consequences for the philosophy of space-time

ABSTRACT. The goal of this paper is to present the hole argument from a historical and critical perspective, although new positions on this topic are highlighted. After reconstructing three basic versions of the hole argument and showing the connections between this argument and determinism on the grounds of philosophy of space-time, the author describes the main field of application of the hole argument, i.e. the substantivalist-relationalist debate, and then evaluates the answers and reactions to this argument. After this analysis, conclusions are formulated about the irrelevance of determinism to the debate on the hole argument and it is postulated that the substantivalist-relationalist discussion should be modified so that it is more epistemological in nature.

KEY WORDS: the hole argument, space-time, general theory of relativity, (in)determinism

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