

Logical Aspects of Quantum (Non-)Individuality

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Abstract

In this paper I consider some logical and mathematical aspects of the discussion of the identity and individuality of quantum entities. I shall point out that for some aspects of the discussion, the logical basis cannot be put aside; on the contrary, it leads us to unavoidable conclusions which may have consequences in how we articulate certain concepts related to quantum theory. Behind the discussion, there is a general argument which suggests the possibility of a metaphysics of non-individuals, based on a reasonable interpretation of quantum basic entities. I close the paper with a suggestion that consists in emphasizing that quanta should be referred to by the cardinalities of the collections to which they belong, for which an adequate mathematical framework seems to be possible.

Keywords: individuality in quantum physics, relational indiscernibility, non-individuals

Subjects: [Specific Sciences: Physics: Quantum Mechanics](#)

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