

Recent Conceptual Consequences of Loop Quantum Gravity. Part I: Foundational Aspects.

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Abstract

Conceptual consequences of recent results in loop quantum gravity are collected and discussed here in view of their implications for a modern philosophy of science which is mainly understood as one that totalizes scientific insight so as to eventually achieve a consistent model of what may be called fundamental heuristics on an ontological background which is part of recently proposed transcendental materialism. This enterprise is being understood as a serious attempt of answering recent appeals to philosophy so as to provide a conceptual foundation for what is going on in modern physics, and of bridging the obvious gap between physics and philosophy. This present first part of the paper deals with foundational aspects of this enterprise, a second part will deal with its holistic aspects.

Keywords: Natural Philosophy, Philosophy of Science, Quantum Gravity

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