APR21-2020-000045

Abstract for an Invited Paper for the APR21 Meeting of the American Physical Society

Striving for Realism, not for Determinism: Historical Misconceptions on Einstein and Bohm¹ FLAVIO DEL SANTO, Austrian Academy of Sciences

A. Einstein's most famous dictum "God does not play dice" has endorsed, especially among physicists, the indissoluble image of this great physicist as the champion of determinism. Also D. Bohm, who was indeed the first to provide a deterministic interpretation of quantum mechanics, is welcomed as the savior of determinism among those who regarded indeterminism in quantum physics as an unacceptable feature to be amended. I will show that, while Einstein and Bohm both pursued indeed a deterministic description of quantum mechanics, their philosophical concern was in fact primarily realism and not determinism. Their alleged adamant committment to determinism is based on a long-lasting misleading narrative and it should therefore be greatly scaled down.

¹I acknowledge a visiting fellowship at the Max Plank Institute for the History of Science in Berlin, where this work was developed