M-Algebras

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Abstract

We present the main ideas and results of recent research on certain new quantum logical structures called M-algebras as well as related structures. M-algebras constitute a general logical framework which permits a unified account of the logical structures arising in both classical and quantum physics. In this framework the logical structures underlying classical physics appear as limiting cases of those underlying quantum theory. This report is based on joint work by Daniel Lehmann, Kurt Engesser and Dov Gabbay.