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Yasuyuki Kawahigashi* (yasuyuki@ms.u-tokyo.ac.jp), Department of Mathematical Sciences, the University of Tokyo, 3-8-1 Komaba, Tokyo, 153-8914, Japan. *Topological phases of matter and subfactors.*

A topological phase of matter is described with a modular tensor category where an anyon corresponds to an irreducible object. In this way, we study various problems such as gapped domain walls and boundary-bulk duality in terms of subfactors and get applications to condensed matter physics. In particular, we present relative versions of boundary-bulk duality and the Verlinde formula. (Received September 14, 2018)