1163-46-300   **Marcel Bischoff**, **Ian Charlesworth**, **Samuel Evington**, **Luca Giorgetti**, **André Henriques** and **David Penneys*** (`penneys.2@osu.edu`). *Distortion for multifactor bimodules and representations of multifusion categories.*

We call a von Neumann algebra with finite dimensional center a multifactor. We introduce an invariant of bimodules over II_1 multifactors that we call modular distortion, and use it to formulate two classification results.

We first classify connected, finite index, finite depth II_1 hyperfinite multifactor inclusions $A \subset B$ in terms of the standard invariant (a unitary planar algebra), together with the restriction to A of the unique Markov trace on B. The latter determines the modular distortion of the associated bimodule. Three crucial ingredients are Popa's uniqueness theorem for such inclusions which are also homogeneous, for which the standard invariant is a complete invariant, a generalized version of the Ocneanu Compactness Theorem, and the notion of Morita equivalence for inclusions.

Second, we classify fully faithful representations of unitary multifusion categories into bimodules over hyperfinite II_1 multifactors in terms of the modular distortion. Every possible distortion arises from a representation, and we characterize the proper subset of distortions that arise from connected II_1 multifactor inclusions. (Received September 01, 2020)

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