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David E Sherman* (dsherman@math.ucla.edu). *The Extension of Relative Tensor Products to Noncommutative L^p Modules - A Preliminary Report*. Preliminary report.

We begin by reformulating the relative tensor product construction of Von Neumann bimodules in terms of the modular algebra (a canonical, "coordinate-free" presentation of the core). After making some topological observations, we pose a natural definition for noncommutative L^p modules and discuss their basic properties. The relative tensor product, as defined, makes perfect sense for L^p modules and is shown to have the expected (a la Sauvageot) categorical properties. We feel that the modular algebra provides a "big picture" in which many or all of the constructions in modular theory have simple representations, and part of our goal is to convince our audience that this notation is natural. In this work in particular, we see a satisfying extension of noncommutative L^1 and L^2 Radon-Nikodym derivatives to the L^p case. (Received October 03, 2000)