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Mira A Peterka* (mpeterka@math.ku.edu). *Complex Vector Bundles over the Theta-Deformed 4-Sphere.*

We report on work classifying and constructing all finitely-generated projective modules (“complex vector bundles”) over the θ -deformed 4-sphere of Connes and Landi. If the deformation parameter θ is rational, the situation mirrors the classical case, but if θ is irrational, then new phenomena arise. Specifically, if θ is irrational, there are then nontrivial rank-1 modules. This work is part of a larger project in noncommutative gauge theory. (Received February 18, 2013)