1120-13-117   **Luchezar Avramov**, **Courtney Gibbons** and **Roger Wiegand***, Department of Mathematics, University of Nebraska, Lincoln, NE 68588-0130. *Betti tables over short Gorenstein rings.*

Let $R = k \oplus R_1 \oplus k$ be a short graded Gorenstein k-algebra with embedding dimension $e = \dim_k R_1 \geq 2$. When $e \geq 3$, R has wild representation type. Nonetheless, we give necessary and sufficient conditions for a column-finite $\mathbb{Z} \times \mathbb{N}_0$ matrix of non-negative integers to be the Betti table of some finitely generated graded R-module. We describe the semigroup S of Betti tables of modules, and identify its atoms and also its *strong* atoms (the ones that generate extremal rays in the rational cone C of Betti diagrams). The atoms generate S, though they are somewhat sparse. The strong atoms, on the other hand, do *not* generate S if $e \geq 3$. The corresponding paucity of extremal rays in C prohibits any sort of Boij-Söderberg theory when $e \geq 3$. (Received February 17, 2016)