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**Kristin Courtney\***, kc2ea@virginia.edu, and **Tatiana Shulman**. *Finite-dimensional representations of  $C^*$ -algebras and AF mapping telescopes*.

A residually finite-dimensional (RFD)  $C^*$ -algebra is one for which the norm of every element equals the supremum of its norms under finite-dimensional representations. We consider the set of elements for which this supremum is a maximum: when is it dense, and when is it equal to the whole algebra? To answer the latter question, we develop a technique utilizing the projectivity of AF mapping telescopes. It turns out that this technique can be adapted to prove a variety of results, several of which will be highlighted. This is joint work with Tatiana Shulman. (Received February 05, 2018)