

1154-46-1701 **J E Pascoe*** (pascoej@ufl.edu). *Advances in realization theory for special classes of noncommutative functions.*

We will describe new methods for obtaining realizations for certain classes of noncommutative functions which encode their desirable properties. For example, matrix monotone functions have Nevanlinna-type representations, matrix convex functions have butterfly type realizations, and plurisubharmonic can be (essentially) uniquely decomposed into alternating convex function and an analytic function.

This talk with survey recent advances on the topic, many of which have been obtained by the author and various subsets of collaborators. (Received September 16, 2019)