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*Fat Points, Grids, and Partial Intersections*

It is well-known that characterizing Hilbert functions of fat points is an open and very difficult problem. One approach is to compare the Hilbert functions of these non-reduced schemes to those of well-known families of reduced point sets. In this talk we will look at connections between Hilbert functions of fat points supported inside grid complete intersections and Hilbert functions of reduced point sets called partial intersections. This is joint work in progress with E. Guardo.