

1097-46-210

Kelly Bickel* (kbickel13@math.gatech.edu) and **Greg Knese**. *Generalized Two Variable de Branges-Rovnyak Spaces*.

Let b be a holomorphic function mapping the unit disk to itself. Then the deBranges-Rovnyak space $H(b)$: (1) is the state space of the minimal coisometric transfer function realization of b , (2) extends analytically past an open set of the torus iff b extends there with unit norm, and (3) is finite dimensional for rational inner b .

If b is a two-variable holomorphic function mapping the bidisk into the closed unit disk, one can still define a de Brange-Rovnyak space $H(b)$ using the reproducing kernel definition. However, such $H(b)$ spaces are too large to satisfy properties (1)-(3). In this talk, we introduce a class of pairs of Hilbert spaces associated to such b , which are obtained via Agler decompositions of b and are contained contractively in $H(b)$. We will discuss a simple method constructing Agler decompositions of b and show that the resulting pairs of Hilbert spaces satisfy the two-variable generalizations of (1)-(3). (Received January 22, 2014)