

5005-C1-19

Gitta Kutyniok* (kutyniok@math.princeton.edu), Program in Appl. and Comp. Mathematics, Princeton University, Fine Hall, Washington Road, Princeton, NJ 08544, and **Tomas Sauer**. *Shearlets and Directional Subdivision Schemes*.

In this talk we will present a first approach towards bivariate directional subdivision which is inspired by the recently introduced directional representation system of shearlets. The subdivision schemes we obtain have the capability of adaptively changing the orientation of the data during the subdivision process. Employing ideal theoretic methods we derive a complete characterization of those masks for which the associated subdivision schemes converge. Finally, we will present several numerical examples and discuss applications of this new concept of subdivision schemes. (Received April 29, 2007)