

**Meeting:** 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-41-1583      **Kyungwon Park\*** (kpark001@math.sc.edu), IMI. Department of Mathematics, University of South Carolina, Columbia, SC 29208. *Bivariate  $n$ -term rational approximation.*

We study nonlinear approximation in  $L_p(\mathbb{R}^2)$ ,  $0 < p < \infty$ , from  $n$ -term rational functions. Our main result relates  $n$ -term rational approximation in  $L_p$  to nonlinear approximation from a broad class of piecewise polynomials over multilevel triangulations allowing a lot of flexibility and, in particular, arbitrarily sharp angles.

This relationship and the existing estimates for spline approximation give a Jackson estimate for  $n$ -term rational approximation in terms of a minimal smoothness norm over a large collection of anisotropic Besov type spaces (B-spaces). (Received October 05, 2004)