

1056-41-2050

Edmond J. Nadler* (enadler@emich.edu), Mathematics Department, Eastern Michigan University, Ypsilanti, MI 48197. *Approximation by Bivariate Linear Splines on Triangulations.*

The setting is the approximation of a smooth bivariate function with polygonal domain by piecewise linear functions that are linear on each triangle in a triangulation of the domain, and the asymptotics as the number of triangles goes to infinity are considered. An asymptotic error estimate was obtained for best L_2 approximation in this setting, and used to characterize such an asymptotically optimal sequence of triangulations.

In this talk, early results by the author on this problem are reviewed, and extended to the more useful cases of *continuous* linear (approximating) splines and *interpolating* linear splines. (Received September 23, 2009)