ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

8. Analysis

1991 MS Classification: 26, 41, 46, 65
Matveev, Oleg V., Institute of Mathematics and Mechanics, Ekaterinburg, Russia
Error estimates for scattered data interpolation
Error estimates for interpolation of functions $f \in W_p^k(\Omega)$, $\Omega \subset$, on irregular nets $\Delta \subset \Omega$ by D^m-splines and radial basis functions are obtained for arbitrary $n, m, k, p, \Omega, \Delta$. With the help of D^m-splines, bases in Sobolev spaces $W_p^k(\Omega)$ are constructed. Three new constructive interpolation methods are obtained which give the best order of approximation on Sobolev classes of functions $f \in W_p^k$. Reference: O. V. Matveev, Methods of approximate recovering functions given on chaotic nets, Izvestiya RAN. Ser. Mat. **60** (1996), N 5, 111-156 (In Russian; English transl. in Russian Acad. Sci. Izv. Math.)