ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

9. Ordinary Differential Equations and Dynamical Systems

1991 MS Classification: 34, 35, 44

Saltykov, Evgueni G., M. V. Lomonosov Moscow State University, Russia

On Equiconvergence with the Fourier Integral of Spectral Expansion related to the non-Hermitean Sturm-Liouville Operator

The spectral expansion of a function equiconverging with the Fourier integral is associated with the second order differential operator with the coefficient representing a complex-valued piecewise continuous function defined over the whole real line and taking constant values outside some interval. The expansion has the integral operator form with the kernel which is the spectral function. The spectral function has the forms of the integral of generalized eigenfunctions with respect to the spectral measure which is the diagonal matrix function. This representation of the spectral function is obtained from the representation in the form of the integral of the Green function, corresponding to the operator, around a circle in a complex plane of a spectral papameter by reducing it to branch-cut integrals. The spectrum consists of two half-lines which are parallel to the real axis in a complex plane of a spectral parameter.