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PROGRAMME

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ABSTRACTS OF TALKS

## Error bounds of Micchelli-Sharma quadrature formula for analytic functions

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Micchelli and Sharma constructed in their paper [On a problem of Turán: multiple node Gaussian quadrature, *Rend. Mat.* 3 (1983) 529–552] a quadrature formula for the Fourier-Chebyshev coefficients, which has the highest possible precision. For analytic functions the remainder term of this quadrature formula can be represented as a contour integral with a complex kernel. We study the kernel, on elliptic contours with foci at the points  $\pm 1$  and a sum of semi-axes  $\rho > 1$ , for the quoted quadrature formula. Starting from the explicit expression of the kernel, we determine the location on the ellipses where maximum modulus of the kernel is attained, and derive effective error bounds for this quadrature formula. Numerical examples will be included.

**Keywords:** Quadrature and integral equations.