Seminario de Análisis y Aplicaciones

Miércoles, 20 de junio de 2012

15:30 h., Módulo 17, Aula 520 (Departamento de Matemáticas, UAM)

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Koksma-Hlawka inequality and quadrature rules on compact manifolds.

Resumen:

We deal with the approximation of a definite integral by means of a weighted sum of the function values at specified points of the domain of integration. As one can imagine, the error depends both on how well distributed are the nodes, and on the oscillation of the function. The classic Koksma-Hlawka inequality gives a quantitative version of this principle, for functions defined on the d-dimensional unit box. We use Fourier analytic arguments to prove variants of this inequality for functions defined on generic compact sets in the Euclidean case, and discuss extensions to the case of compact manifolds.

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