THE DEPARTMENT OF MATHEMATICAL SCIENCES

Indiana University - Purdue University Fort Wayne

is pleased to present

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Singularity Distribution of Best Meromorphic Approximants

Abstract

The problem of approximating a complex-valued function on a closed curve by the trace of a meromorphic function with n poles inside that curve is equivalent to finding a distribution d_n of n discrete masses to approximate a 2-D vector field on the curve by the gradient ∇u of a solution to $\Delta u = d_n$. As such, it occurs naturally in inverse elliptic problems. We shall discuss the distribution of singularities of best approximants when n gets large, in the special case where the approximated function extends analytically except over branched singularities inside the curve (joint work with M. Yattselev). The answer will be stated in terms of certain extremal problems from potential theory. We will also formulate a conjecture in higher dimension.

Noon – 1:00, Wednesday, November 4, 2015. Location: KT 216

`http://ipfw.edu/departments/coas/depts/math/news/seminars.html`