PIMS / AMI Seminar

Friday, November 10, 2017
3:00 p.m.
CAB 657

"Least Squares Approximation and Christoffel Function"

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Abstract

For a domain X with a probability measure ρX , consider reconstruction of an unknown function f using discrete least squares approximation from a linear space V_m of dimension m constructed from values $f(x_i)$, where x_i are randomly drawn from X w.r.t. (X, ρX) . Such approximation can be inaccurate when n is close to m. We will present a result quantifying how large should n be for this least squares method to be stable and accurate. It turns out that the deciding quantity is the infimum of the so-called Christoffel function associated with V_m w.r.t. (X, ρX). Then we will present our recent results on estimates of behavior of Christoffel function on various convex domains in equipped with the uniform measure.

Refreshments will be served in CAB 649 at 2:30 p.m.