

THE UNIVERSITY



OF HONG KONG

Department of Mathematics

COLLOQUIUM

Introduction to beta-divergence and related applications

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Abstract

In this talk, we study the domain of the beta-divergence and its connection to the Bregman-divergence associated with the convex function of Legendre type. In fact, we show that the domain of beta-divergence (and the corresponding Bregman-divergence) include negative region under the mild condition on the beta value. Additionally, through the relation between the beta-divergence and the Bregman-divergence, we can reformulate various variational models appearing in image processing problems into a unified framework, namely the Bregman variational model. This model has a strong advantage compared to the beta-divergence-based model due to the dual structure of the Bregman-divergence. As an example, we demonstrate how we can build up a convex reformulated variational model with a negative domain for the classic nonconvex problem, which usually appears in synthetic aperture radar image processing problems.

Date: May 11, 2018 (Friday)

Time: 4:00 - 5:00pm

Venue: Room 210, Run Run Shaw Bldg., HKU

All are welcome