The Hong Kong Polytechnic University
Department of Applied Mathematics

Seminar
On

A Combination Model of Second-order and Fourth-order Partial Differential Equations for Image Restoration

by

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Abstract

In this paper, we propose a combination model of second-order and fourth-order partial differential equations for the image restoration. The model is a convex combination of the ROF model and the model of fourth-order equation with a parameter θ.

The numerical experiments demonstrate that our combination model is valuable. The new model collected advantages of the two models. In all tables, the errors of the combination model between the exact images and corresponding restored images in L_2 norm are the smallest in the models. The restored images of the combination model are the best in the corresponding restored images of the three models.

In computation, we apply the fixed point method and an improved AMG method. The computational methods are efficient and robust in the image restoration.

Date : **28 November, 2008 (Friday)**

Time : **3:00 – 4:00 p.m.**

Venue : **Departmental Conference Room HJ610**
The Hong Kong Polytechnic University

*** * * ALL ARE WELCOME * * ***