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**Yuzhen Liu\*** (yz10204@auburn.edu), **Lixin Shen**, **Yuesheng Xu** and **Hongqi Yang**. *A Collocation Method Solving Integral Equation Models for Image Restoration.*

Discrete models are usually used in image processing due to their convenience in implementation and their consistence with the usual sampling method. However, since discrete models result from piecewise constant approximation of the integral equation which describes the processing, it imposes a bottleneck model error which cannot be compensated by any image processing method. To overcome the shortcoming of discrete models in image restoration, the continuous model can be used instead.

In this talk, a continuous model we propose for image restoration from out-of-focus images as well as the multiscale collocation method we used for solving the integral equations that arise will be presented. (Received September 14, 2017)