1023-45-1622 **Cara D. Brooks*** (brooksca@msu.edu) and **Patricia K. Lamm**. *A Discrepancy Principle for Local Regularization.*

We consider the problem of solving a first kind linear Volterra convolution equation with finitely smoothing kernel. With suitable assumptions on the signed Borel measure associated with *local regularization*, a discrepancy principle may be used to select a constant regularization parameter. This newly established *a posteriori* criterion, which is based on the noise level and the given perturbed data, coupled with local regularization form a convergent regularization method. Numerical examples illustrate the effectiveness of the rule.

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