

1145-VN-2791 **Cara D. Brooks*** (cbrooks@fgcu.edu), 10501 FGCU Blvd., South, Fort Myers, FL 33965, and
Patricia K. Lamm (lamm@math.msu.edu). *An improved first order local regularization method
for ill-posed Volterra equations.* Preliminary report.

We present a first order local regularization method for solving ill-posed Volterra equations with ν -smoothing kernels. Based upon a previous method that performs well only for one-, two-, and three-smoothing kernels, our method is shown to be convergent for *all* values of $\nu \in \mathbb{N}$. We describe numerical implementation of the method and provide a new scheme to approximate the initial condition. Numerical examples illustrate the newly achieved stability in the cases $\nu = 4$ and higher. (Received September 25, 2018)