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Fatih Celiker* (celiker@wayne.edu), 656 W. Kirby 1150 FAB, Detroit, MI 48202, and **Burak Aksoylu** and **Horst R. Beyer**. *Local boundary conditions in nonlocal problems*.

We study nonlocal wave equations on bounded domains related to peridynamics. We display a methodology for enforcing boundary conditions (periodic, Dirichlet, or Neumann) through an integral convolution. We present a numerical study of the approximate solution, study convergence order with respect to the polynomial order of approximation, and observe optimal convergence. We depict solutions for each boundary condition to ascertain the behavior of waves under the nonlocal theory. (Received July 05, 2015)