

1014-35-754

**Tunde Jakab\*** ([jakabt@gmail.com](mailto:jakabt@gmail.com)), Mathematics Department, 202 Mathematical Sciences Bldg, University of Missouri, Columbia, MO 65211. *Layer potential techniques for parabolic PDE in nonsmooth cylinders.*

We adapt the method of boundary layer potentials to the Poisson problem for the heat operator in a bounded Lipschitz cylinder, with Dirichlet and Neumann boundary conditions, taking the lateral datum from an anisotropic Besov space. This extends the important work of D. Jerison and C. Kenig who dealt with the case of the Laplacian. Some implications of this theory to parabolic systems, such as the Lamé system of elastostatics and the nonstationary Navier-Stokes equations, will be also discussed. (Received September 23, 2005)