1117-37-37   **Jiu Ding*** (`jiu.ding@usm.edu`), Department of Mathematics, 118 College Dr., Box 5045, Hattiesburg, MS 39402, and **Noah Rhee** (`rheen@umkc.edu`), Department of Mathematics and Statistics, University of Missouri at Kansas City, Kansas City, MO 64110. *A Piecewise Quadratic Interpolation Method for the Computation of Stationary Densities.*

Let S be a nonsingular transformation of an interval and let P be the corresponding Frobenius-Perron operator. We propose a piecewise quadratic method based on the average value interpolation that can be efficiently used to approximate a fixed density of P. The convergence of the method for the Lasota-Yorke class of piecewise stretching mappings is proved and numerical results are also presented. (Received December 19, 2015)