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**Robert Buckingham\*** (buckinrt@uc.edu), Department of Mathematics, University of Cincinnati, Cincinnati, OH 45221, and **Peter Miller**. *Asymptotics of rational Painleve II solutions.*

The nonhomogenous Painleve II equation has exactly one rational solution for specific values of the nonhomogeneity parameter  $\alpha$ . Clarkson and Mansfield observed that the zeros (or poles) of these rational solutions appear to have a highly regular triangular structure. We prove that, in the large- $\alpha$  limit, the scaled zeros (or poles) fill out a certain curvilinear triangular region in the complex plane. We also discuss progress on computing the leading-order asymptotic behavior of the rational solutions inside, outside, and at the edge of this root region. (Received January 10, 2012)