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Antonio Mastroberardino* (axm62@psu.edu), Penn State Erie, The Behrend College, School of Science, Erie, PA 16563, and **Joseph E Paultet**. *Analysis of radial stagnation flow toward a stretching cylinder.*

We investigate the nonlinear boundary value problem that is derived from a similarity transformation of the Navier-Stokes equations governing fluid flow toward a stretching permeable cylinder. Existence of a solution is proven for all values of the Reynolds number and for both suction and injection, and uniqueness results are obtained in the case of a monotonically decreasing solution. A priori bounds on the skin friction coefficient are also obtained. (Received September 22, 2009)