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Sherif M Azeez (sazeez10@gmail.com), Department of Mathematical Sciences, 1200 N. DuPont Highway, Dover, DE 19901, **Dawn A Lott*** (dlott@desu.edu), Department of Mathematical Sciences, 1200 N. DuPont Highway, Dover, DE 19901, and **Pablo Suarez** (psuarez@desu.edu), Department of Mathematical Sciences, 1200 N. DuPont Highway, Dover, DE 19901. *Analytic solution of the effect of slip condition on magnetohydrodynamic Stokes flow due to an oscillating wall.*

In this paper, we study two dimensional parallel magnetohydrodynamic (MHD) slip flow of an unsteady, viscous, incompressible, electrically conducting fluid bounded by an oscillating wall. We present a closed form analytical solution for the steady periodic and transient velocity. The analytical solution was obtained using the Laplace transform method. The effect of slip and the magnetic field parameters on the Stokes flow was analyzed. It was found that the oscillations in the steady periodic velocity decrease with increase in the slip and the magnetic field parameters. The effect of increasing initial frequency of oscillation increases the period of oscillation in space and is only apparent in short time. (Received September 19, 2011)