Viscous power-law flow past a finite flat plate LING XU, Georgia
State University, MONIKA NITSCHE, University of New Mexico — Viscous flow
past a finite flat plate is studied numerically, using a high order implicit finite dif-
ference scheme. The plate moves in direction normal to itself with velocity $V_\infty = t^p$.
We present the dependence of the vorticity evolution, streamlines and streaklines on
$p \in [0, 2]$ and on Reynolds number $Re \in [250, 2000]$, and compare with experimental
results of Pullin & Perry (1980). We observe that, unlike in the p=0 case, for $p \neq 0$
the vortex core position oscillates as it moves away from the plate.

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