

Abstract Submitted
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Orthogonal Boundary-Layer Flows PATRICK WEIDMAN, University of Colorado — A theoretical study is made for boundary-layer flows of different strengths intersecting each other at right angles. Analytic solutions are found for orthogonally intersecting Bickley jets, wall jets, wakes, and uniform shear flows. The equations for intersecting Blasius boundary layers and mixing layers are found and solved numerically. In all cases the development of the boundary-layer thickness for flow in the x - z plane is proportional to a fractional power of $(x + z)$. Extensions of the work are envisioned to include plate transpiration and stretching for the wall-bounded flows.

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