Three-dimensional corner flows in microchannels LAURA
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We study, by means of three-dimensional numerical simulations and analytical in-
vestigations, low Reynolds number fluid flows in rectangular micro-channels that
present sharp angles, bends or curved boundaries. These flows are characterized by
the generation of secondary streamwise vorticity, adjacent to the boundary, whose
intensity is related to the rate of change of the curvature of the boundary (Balsa,
1998). We also study how this not well-known, yet relevant phenomenon affects the
transport of scalar quantities at the boundary.

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