1038-35-292David Hoff* (hoff@indiana.edu), Department of Mathematics, Bloomington, IN 47405, and
Mikhail Perepelitsa. Instantaneous boundary-tangency of singularity curves in compressible fluid
flow.

We show that, for a model system of compressible fluid flow in the upper half space of the plane, curves which intersect the boundary and across which the initial density is discontinuous become tangent to the boundary instantaneously in time. This result is closely related to the instantaneous formation of cusps in two-dimensional incompressible vortex patches. (Received February 12, 2008)