Vortex sheets in exterior domains and Kelvin's circulation theorem

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In this talk we consider incompressible ideal 2D flow in the exterior of N obstacles with vortex sheet regularity, i.e., the vorticity is assumed to be a bounded Radon measure in H^{-1}. We assume that the vorticity is of distinguished sign. We are concerned with the conservation of circulation around individual boundary components, which holds for smooth flows. We establish an analogue of this conservation law for weak solutions with vortex sheet regularity.