1077-76-809 **Leon Kaganovskiy*** (LEONKAG@GMAIL.COM), 1233 E 19TH ST APT 6J, BROOKLYN, NY 11230, and **Robert Krasny**. *3-D Vortex Rings Instabilities and Collision: Numerical Approach.*

A panel method is presented for computing vortex sheet motion in 3D flow. The sheet is represented as a set of quadrilateral panels with a quad-tree structure. The panels have active particles that carry circulation and passive particles used for adaptive panel subdivision. The method is applied to compute the azimuthal instability of a vortex ring and head on as well as off-center vortex collision. Vorticity isosurfaces are investigated. Results are presented showing the deformation of the ring axis and the presence of local axial flow in the core of the ring as seen in experiments. (Received September 13, 2011)