Meeting: 1007, Santa Barbara, California, SS 9A, Special Session on Ricci Flow/Riemannian Geometry

1007-53-91 **Natasa Sesum*** (natasas@cims.nyu.edu), 1 Washington Square Village 13D, New York, NY 10012. *Linear and dynamical stability of Ricci flat metrics.* Preliminary report.

We can talk about two kinds of stability of the Ricci flow at Ricci flat metrics. One of them is a linear stability, defined with respect to Perelman's functional $\mathcal{F}$. The other one is a dynamical stability and it refers to a convergence of a Ricci flow starting at any metric in a neighbourhood of a considered Ricci flat metric. We show that dynamical stability implies linear stability. We also show that a linear stability together with the integrability assumption imply dynamical stability. As a corollary we get a stability result for $K3$ surfaces part of which has been done by Guenther, Isenberg and Knopf. (Received February 04, 2005)