1042-14-212 **Sukhendu Mehrotra*** (mehrotra@math.umass.edu), Dept. of Math. and Stat., University of Mass., LGRT (16th Floor), 710 N. Pleasant Street, Amherst, MA 01003. *Deformations of Fourier-Mukai Equivalences.* Preliminary report.

This talk deals with the following question: when does a Fourier-Mukai equivalence between the bounded derived categories of coherent sheaves of two smooth, projective varieties extend to an equivalence between a deformation (over Artin rings, or formal) of these categories ? We shall begin with a survey of results of Toda, Ben-Bassat- Block-Pantev and Huybrechts-Macri-Stellari in this direction, and then present a derived infinitesimal Torelli Theorem for K3 surfaces proven by Macri-Stellari. Finally, results of the author pertaining to the aforementioned Torelli Theorem, and further joint work with E. Macri and P. Stellari will be presented. (Received August 19, 2008)