**Experimental Study of Head-Tail Damping and Nonlinear Filamentation Based on Precise Analysis of Coherent Betatron Oscillations in Electron Storage Rings**, <u>N. AKASAKA</u>, S. KAMADA, KEK -Coherent betatron oscillations measured by a single pass position monitor were analysed to give instantaneous tune and amplitude in good accuracy. Based on this precise analysis of coherent oscillations, experimental studies were carried out on head-tail damping and nonlinear filamentation in an electron storage ring of TRISTAN MR.