

**Experimental Studies of Beam Dynamics near the Coupling and Third-Order Resonance at LNLS,** R.H.A. FARIAS, L. JAHNEL, L. LIN, P. TAVARES, A.L. XAVIER, LNLS, Campinas - The dynamics of transverse betatron oscillations near the linear coupling resonance and the third-order resonance have been experimentally studied at the LNLS UVX ring using an optical beam profile monitor that uses visible bending magnet radiation to form an image of the electron beam on the surface of a CCD sensor. The image of the electron beam is integrated for some milliseconds after a horizontal excitation of the beam. The Hamiltonian formalism describing particle motion near a resonance condition is applied to analyse the properties of the resulting image and parameters such as the coupling coefficient can be determined.