

**Measurement of Space Charge-Dynamics Effects in a FODO Channel,** P-Y. BEAUVAIS, R. FERDINAND, N. PICHOFÉ, CEA-DSM-DAPNIA-SEA, CEA-SACLAY; G. HAOUAT CEA-DRIF-DPTA-SPAA, CEA-BIII, 91680 Bruyère-Le-Chatel; S. NATH LANSCE-1, MH H817, Los Alamos National Laboratory, Los Alamos, NM 87545, USA - An experimental study of space charge-dynamics effects is in progress at Saclay. The proton-beam has a long pulse structure, high-intensity, low-energy and low-emittance. It is transported through a FODO channel. The beam transverse phase space distribution has been measured as a function of the beam current at the output of the channel. Experimental results along with analytical as well as numerical analysis are presented. Measurements for a beam mismatched at the input of the FODO channel are compared with simulation results.