

**The BOM 1000 Turn Display: A Tool to Visualize the Transverse Phase-space Topology at LEP, G. MORPURGO, CERN** - The LEP BOM 1000 Turn facility enables the User to acquire the position of the beam at each beam position monitor over a number of consecutive turns. By kicking the beam and acquiring the first 1000 turns after the kick, the dynamic behavior of the beam in such a condition can be studied. In particular, by selecting a position monitor and plotting the position of the beam at a given turn against the position shifted by one (or n) turn(s), the evolution of the beam in the phase-space can be observed. Fixed points in the phase-space can be put in evidence, as well as the beam behavior in their neighbourhood. Quantities like the beam damping, or the beam detuning as function of the position amplitude can also be studied in this way. Significant examples from real life will be shown.