Measurement of the Coupling Impedance of the HERA B Vertex Detector Chamber,
F. GALLUCCIO, M.R. MASULLO, INFN Napoli, Italy; V.G. VACCARO, Università "Federico Ii", Napoli, Italy; B. SCHWINGENHEUER, Max-Planck Institute, Heidelberg, Germany; R. WANZENBERG, DESY Hamburg, Germany - The installation of the HERA-B experiment in the HERA proton ring will start in 1996. The vertex detector of this experiment is placed inside the vacuum chamber with silicon strip detectors mounted inside 28 Roman Pots closing up around the beam from 4 sides and at different longitudinal positions. Due to the detector design, the vacuum vessel has a conical profile. If not properly shielded, this complicate structure would interact with the circulating beam, inducing large amplitude wakefields which would eventually drive instabilities. Several schemes have been proposed to shield the beam from the electromagnetic fields present in the large cavity. In order to compare the effectiveness of these solutions, a half-size model has been built and the impedance of the vessel alone, and of the vessel with the different shields have been measured by means of the coaxial wire method. The results of these measurements are given.