Field Measurement of the ELETTRA cavity Higher Order Modes, A. FABRIS, C. PASOTTI, P. PITTANA, M. SVANDRLIK, Sincrotrone Trieste; P. CRAIEVICH, Università di Trieste - The Higher Order Mode (HOM) fields of the ELETTRA cavities have been measured using the perturbative method. The spare cavity under test in the laboratory has been equipped in a similar way to the cavities in the storage ring. Quantitative investigations have been restricted to those HOMs, monopoles and dipoles, resonating below the cut-off frequency of the cavity beam pipe and exciting coupled bunch instabilities of the beam. The measured R/Q for these HOMs have been compared with the results of the simulations with the 3-D MAFIA code. The data is used for more precise calculations of Coupled Bunch growth rates. Moreover, the measurement set-up allows a precise identification of the polarization plane for dipole modes and a qualitative investigation for modes resonating above the cavity beam tube cut-off, but below the vacuum chamber cut-off frequencies.