

**Pumping and Pressure Measuring System for the LINAC of the ELETTRA Synchrotron Light Source, F. GIACUZZO, J. MIERTUSOVA,**

Sincrotrone Trieste S.p.A., Italy - Based on the two years of excellent experience with the storage ring (SR) vacuum system, it was decided to install a similar pumping and measuring system on the LINAC. The system allows to check vacuum conditions during LINAC operation from the control room. Like in the SR, the current absorbed by sputter-ion pumps (SIPs) is used to determine the pressure. The protection against vacuum failure is performed by means of two interlock levels using pressure measurements. At the lower level the radio frequency system is switched off to protect the wave guides and the resonant cavities, while the higher level closes the section valves of the vacuum system. Varian StarCell SIPs of 60 l/s and 230 l/s are used which were calibrated (i.e. the coefficients  $K$  and  $n$  were found to perform conversion current to pressure -  $I = K \cdot P^n$ ) in the pressure range from  $10^{-10}$  to  $10^{-6}$  mbar, by comparing pressure values given by cold cathode Penning gauges. Due to the strong EMI and RFI noise, which is present in the whole LINAC area, different technologies were used to interface the SIP power supplies with the control room and the interlock system.