FIRST RESULTS AT ELETTRA

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ELETTRA is a low emittance synchrotron radiation (SR) facility at Trieste. The radiation source of the beamline for X-ray diffraction is the 4.5m long, 57 poles permanent magnet wiggler which widens the range of wavelength available for experiments to a short wavelength limit of about 0.5 Å. The SR can be monochromatized in the range 4-25keV (0.5÷3.0 Å) by means of a fixed-exit double-crystal monochromator containing two interchangeable pair of Si(111) or Si(220) crystals in a nondispersive parallel setting. In order to obtain a higher flux on the sample a mirror collects 2.8 mrad horizontally a 0.23 mrad vertically and focuses X-rays up to 25keV with a demagnification factor of 1.5 (S. Bernstorff *et al. Rev. Sci. Instrum.* (1995) **66**, 1661-1664)
The experimental station is equipped with both a Mod. 5020 Huber 4-circle diffractometer and a imaging plate detector system from Marresearch (Ø 180mm). The last instrument is operative to the users and 23 proposals were satisfied until July 1995 for a total beam time of 170 turns. The use is dominated by structure studies of biologically related molecules where the high intensity of SR is proving its most important advantage as well as its very refined collimation. The SR has led to more accurate data extending to much higher resolution. Other research concern the characterization in terms of mesomorphism and orientation of thin polyester films and the crystal structure determination of crystal samples having very weak scattering effects.