Optical Techniques in Beam Diagnostics, M. FERIANIS, Sincrotrone Trieste - Optical Techniques are widely used in beam diagnostic instruments giving more and more detailed information on different beam aspects. In recent years, the strong development of opto/electronic components and the thorough exploitation of physical phenomena, in the field of particle-to-photon converters, have greatly contributed to the diffusion of optical based Diagnostic tools. In this paper an overview on Optical Techniques in Beam Diagnostics is given with a detailed analysis of optical sources, sensors and acquisition/analysis processes. A first broad classification is possible based on the wavelength of the observed radiation: both x-ray and visible radiation based instruments are dealt with in this paper. Optical Technique which routinely measure beam profiles are presented and examples of state of art methods given. Appropriate data processing of the acquired signals further extends the possibilities of these diagnostics tools and improves their global performance.