

Weak gravitational lensing as a probe of the dark matter distribution

P. Schneider

Institut für Astrophysik, Universität of Bonn

Gravitational light deflection offers a unique tool to study directly the distribution of matter in the Universe, irrespective of its nature. In this talk I shall describe briefly the basics of weak lensing, before turning to several applications, including (1) the search for, and detection of cluster-mass matter concentrations, (2) lensing by the large-scale inhomogeneous matter distribution in the Universe and its role in determining cosmological parameters and (3) the investigation of the relation between the dark matter distribution and the large-scale distribution of galaxies, e.g. the biasing of galaxies. Future perspectives concerning new instrumentations just coming on-line will be outlined.

*BDMH 2004 – Baryons in Dark Matter Halos
5–9 October 2004
Novigrad (Croatia)*