Constraints on cosmological parameters from Gravitational lensing statistics

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We present constraints on cosmological parameters in the $\Omega_0 - \Omega_\Lambda$ plane from the analysis of gravitational lensing statistics. The data sample consists of two surveys: Hubble Space Telescope Survey (HST) and Jodrell Bank-VLA Astrometric Survey/Cosmic lens all sky survey (JVAS/CLASS). Detection limits of the surveys are incorporated into the statistics as well as the revised luminosity function parameters. We also compare our results with previous works, especially those of Im et al. (1997), who have used the probabilities of lens systems having the observed angular separation of the images for given measured values of lens redshifts, source redshifts, and lens magnitudes. We find that $\Omega_\Lambda = 0$ models and and $\Omega_0 = 1.0$ flat models are almost always ruled out at 95 % confidence level. The best fit flat model for our samples using the method of Im et al. is found to be $\Omega_0 = 0.24$, $\Omega_\Lambda = 0.76$. Recent constraints from type Ia supernovae may be combined with this work to produce more tight and meaningful informations on the cosmological parameters.