error of Type Ia supernova method. In this way, we estimate if the distances are consistent in each case as well as we calculate the measurement of the universe's expansion.

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COSMOLOGY FROM THE ANGULAR CORRELATION FUNCTION AND GALAXY CLUSTERS

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The large-scale clustering properties of galaxies allows us to investigate models which attempt to explain the recent acceleration of the Universe background expansion. These properties include the correlations of galaxies and the abundance of galaxy clusters. I will present some of the relevant aspects when using these probes to constrain cosmological models. If time allows I will also present some of our recent results on real data from the Sloan Digital Sky Survey DR8 and on mock catalogs of the Dark Energy Survey.

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THE GALAXY COSMOLOGICAL MASS FUNCTION

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The aim of this work is to present a semi-empirical relativistic approach which uses the general model connecting cosmological theory to observational data derived from galaxy surveys (Ribeiro & Stoeger 2003, ApJ, 592, 1) to study the galactic mass evolution. For this purpose we define a new quantity named the galaxy cosmological mass function (GCMF). We used the FORS Deep Field survey sample of 5558 galaxies in the redshift range $0.5 < z < 5.0$ and its luminosity function in the B-band, as well as this sample's stellar masses. We obtained that the GCMF behaves as a power-law given by $\zeta(z) \propto [\mathcal{M}_g(z)]^{-2.3\pm0.4}$, where $\mathcal{M}_g$ is the average galactic mass in the studied redshift interval. This result can be seen as an average of the galaxy stellar mass function pattern found in the literature, where more massive galaxies were assembled earlier than less massive ones.

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THE CFHT/MEGACAM STRIPE-82 SURVEY

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The CFTH/MegaCam Stripe-82 Survey (CS82) is a joint Canada-France-Brazil project covering $\sim$ 170 sq. deg. in the SDSS Stripe-82 area down to magnitude 24.1 in the optical i-band with a mean 0.6" seeing (PIs: J.-P. Kneib, A. Leauthaud, M. Makler, L. Van Waerbeke). Its main focus is the study of weak and strong gravitational lensing, with additional applications in other fields such as galaxy evolution and galaxy cluster science. Furthermore, the multitude of existing and future projects in Stripe-82, covering from the radio to the UV and including a large set of spectroscopic data, offers the possibility of exploring applications in many fields of astronomy, thereby enhancing the scientific value of the survey. In this Short Talk, we will give an overview of the main published and ongoing CS82 scientific projects. They include the measurement of the largest contiguous lensing convergence map to date and its peak statistics, providing direct information on the large scale dark matter distribution; the first CMB-lensing × shear cross-correlation measurement, probing the dark matter distribution at redshifts of order 1; galaxy-galaxy lensing measurements around SDSS-III/BOSS galaxies, constraining halo occupation distribution (HOD) models and obtaining complementary mass measurements in combination with BOSS spectroscopic data; the discovery of several new gravitational arc systems and more.

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