GR 17: Kosmologie

Zeit: Freitag 11:00–12:00 Raum: SFG 0140

GR 17.1 Fr 11:00 SFG 0140

Towards counts-in-cells statistics for galaxy surveys — •Cora Uhlemann — Institute for Theoretical Physics, Utrecht University

Recently, we developed an analytical formalism to predict the one-point probability distribution of the dark matter density in spheres from the Gaussian initial conditions using the spherical collapse model. Here, we present how this theory can be extended to biased tracers such as dark matter halos and galaxies and hence used to predict counts-in-cells statistics for galaxy surveys.

GR 17.2 Fr 11:15 SFG 0140

New estimates of the Cosmic Radio Dipole — •Thilo Siewert — Universität Bielefeld

Continuum surveys of the radio sky provide a rich resource of information. Besides the analysis of individual galaxies and other astrophysical sources, they also allow us to probe cosmological models. We analyze the data provided by several surveys across radio frequencies to estimate the Cosmic Radio Dipole in the radio source counts. This dipole is a deviation from the statistically isotropic Universe caused by the proper motion of the Solar system and the large scale structure. The kinetic effect is also hold responsible for the temperature dipole of the Cosmic Microwave Background. In this presentation the results of recent dipole analysis based on the TGSS ADR1 at 150 MHz is presented and compared with results at other frequencies.

GR 17.3 Fr 11:30 SFG 0140

Identification and state of the universe. — •Norbert Sadler — Wasserburger Str. 25a ; 85540 Haar

The identification and the physical state of the universe is made over the four essential order parameters of the universe. The four essential order parameters relate to:

The Reynold number (Re), the Hubble paramerter (Ho), the entropy (S(Univ.) and the algebra of the Exzeptional E8-Group (E8). From these four parameters the physical state of the universe can be derived and determined. The four essential parameter build a fortex-basic form of a cosmolical T.O.E. The determination of the state is made over the technically measureable and reproducable Reynold number.

The cosmolical state of the universe:

Re(Univ.)=(Ho x Ho)x(E8 x E8)/(S(Univ.) x (S(Univ.))=861.

With: Ho=69.4 km/Mpcs; E8=8.61x10**17; S(Univ.)=0.066. The technical analogon to the Reynold number would be a moscito with a relativ speed of 1 meter per second.

Further information: www.cosmology-harmonices-mundi.com

GR 17.4 Fr 11:45 SFG 0140

Dirac's Large Numbers in Einstein-Dicke Cosmology — •Alexander Unzicker — Pestalozzi-Gymnasium Müchen

Dirac's Large Number Hypothesis reflects one of the most tantalizing cosmological observations. It involves not only the ratio of electric and gravitational force and the size of the universe, but also the number of particles contained in it, making it an a-priori very unlikely coincidence. Yet Dirac's suggestion is often dismissed as 'numerology', presumably because it is totally incompatible with any of the existing cosmological models. Thus it is certainly surprising that the Large Number Hypothesis is a direct consequence of Einstein-Dicke cosmology, a variable speed of light model that was first considered by Albert Einstein in 1911 and substantially improved by Robert Dicke in 1957. Further implications for the early universe are discussed.