

Invited talk

Lenticular galaxies of the Local Universe: Effect of environments

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Lenticular galaxies are the second most abundant type of non-dwarf galaxies in the Local Universe, after spirals: according e.g. to the APM survey (Naim et al. 1995) or to FIGI catalogue (Baillard et al. 2011), they constitute about 15%. Despite their dominance in clusters of galaxies where they may reach 60% of the galaxy population, the majority of S0s inhabit rather rarified environments, being members of groups and sometimes being even isolated. Evolutionary paths of S0s in clusters, in groups, and in isolation may be quite different. Recent observational findings imply that the S0s in clusters and S0s in the field have different structure – different types of radial brightness profiles (Erwin et al. 2012, Sil'chenko et al. 2018) as well as different thickness of their stellar disks. And the properties of their disk stellar populations are also different: the cluster S0s have all very old stellar disks while the S0s in the field often demonstrate some gas content and current star formation in the rings. I would discuss possible mechanisms of S0 smooth thick disk formation, by specifying in particular environment impact on the S0 shaping.