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Cosmic controversies in galaxy clusters: weak lensing mass calibration MARIA ELIDAIANA DA SILVA PEREIRA, Brandeis University, DES COLLABORATION — The abundance of galaxy clusters as a function of mass and redshift is potentially one of the most powerful cosmological probes. In particular, galaxy clusters are most sensitive to the combination of the matter fluctuation amplitude σ_8 and the matter density Ω_m. In recent years, measurements of these parameters from different galaxy cluster samples are presenting a systematic lower value in comparison with the results from the Cosmic Microwave Background. However, these different measurements contain systematics that may explain this small shift in the $\sigma_8 - \Omega_m$ plane. Currently, the mass calibration of galaxy clusters is the dominating source of systematics in cluster cosmology. In this talk, I will present the systematics involved in the weak-lensing mass calibration, show the latest results from the Dark Energy Survey for both a richness-based and a new stellar-mass based mass proxy. I will also discuss the improvements we need towards the per cent level uncertainties required for precise cluster cosmology.

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