
ESO 137-001: a jellyfish galaxy model

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Résumé

Ram-pressure stripping of the spiral galaxy ESO 137-001 within the highly dynamical intracluster medium of the Norma cluster lead to spectacular extraplanar CO, optical, H α , UV, and X-ray emission. The H α and X-ray tails extend up to 80 kpc from the galactic disk. I will present dynamical simulations of the ram-pressure stripping event, where the physics of the stripped gas and its ability to form stars are studied. The modeling of the H α emission caused by ionization through thermal conduction is consistent with observations. We predicted the HI emission distributions for the different models, which can be compared to the recently published MeerKAT observations. Based on the 3D velocity vector derived from our dynamical model, we derive a galaxy orbit, which is close to unbound.

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