The search for inner polar disks with integral field spectroscopy: the case of NGC 2855 and NGC 7049

The presence of non-circular and off-plane gas motions is frequently observed in the inner regions of disk galaxies. We have measured with integral-field spectroscopy the surface-brightness distribution and kinematics of the ionized gas in NGC 2855 and NGC 7049. These two early-type spiral galaxies were selected to possibly host a kinematically-decoupled gaseous component in orthogonal rotation with respect to the galaxy disk. We have modeled the ionized-gas kinematics and distribution of both galaxies assuming that the gaseous component is distributed either on two orthogonally-rotating disks or in a single and strongly warped disk. In both galaxies the velocity field and distribution of the inner gas are consistent with the presence of an inner polar disk. In NGC 2855 it corresponds to the innermost and strongly warped portion of the main disk. In NGC 7049 it is a central and geometrically-decoupled disk, which is nested in the main disk.