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Título: The nuclear ring in NGC 7742 seen with MUSE

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Resumen:

We present MUSE results on the kinematics and stellar populations of the face-on disk galaxy NGC 7742. This galaxy hosts a spectacular nuclear ring of enhanced star formation, which is unusual in that it is hosted by a non-barred galaxy and presumably instigated dynamically by an earlier interaction event which has also led to counterrotation gas and stellar components in its central kiloparsec region. We find evidence that the ring contains stars of up to a few 100 Myr old in addition to those that are just a few Myr old and are responsible for the observed Balmer emission. We confirm the known counterrotation but the superior spatial resolution and field of view of MUSE allow us to map the gas and stellar kinematics well outside the ring region and to deduce the presence of significant streaming motions. We present stellar population modelling within the ring but also in the regions inside and outside the ring, which prove that star formation is concentrated in but not limited to the ring. The combination of superb kinematics and population measurements allows us to unravel the detailed history of this spectacular circumnuclear starburst region.