

## **On the relationship between dynamical masses from spectral features in emission and other mass estimators for a sample of local star-forming galaxies**

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### **Abstract**

We have obtained both virial and dynamical masses of a sample of local star forming galaxies from the UCM survey. The rotational curves measured using the kinematics of the ionized gas were used as tracers of the mass of the system. The goal is to obtain a relationship with photometric stellar masses, calculated from population synthesis models, in order to be used to massive spectroscopy of large samples of star-forming galaxies at different redshifts. The dynamical masses of the galaxies studied in this work are consistent with the stellar masses estimated by Pérez-González et al. (2003). In this sense, the H $\alpha$  emission line rotation curve is representative enough of the real galaxy rotation curve (i.e. gravitational potential) for active star-forming galaxies. We have found that in the case of disk systems, the dynamical masses obtained are systematically smaller than virial masses, but there is no evidence of a simple relationship. This result can be understood if galaxies have a nuclear stellar formation burst that, in most cases, could dominate the velocity dispersions obtained from the spectra. However, we find a relationship between virial and stellar masses. A more representative sample would provide a calibration good enough to be used for future galaxies surveys.