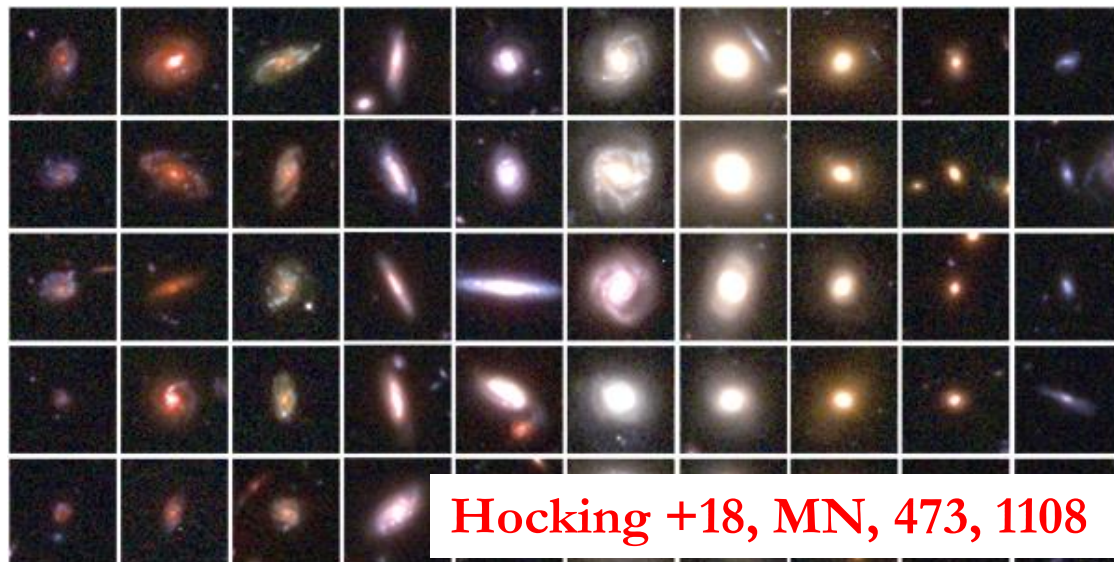


Galaxy morphologies for LSST

Unsupervised machine learning - applied to CANDELS



Similarity search

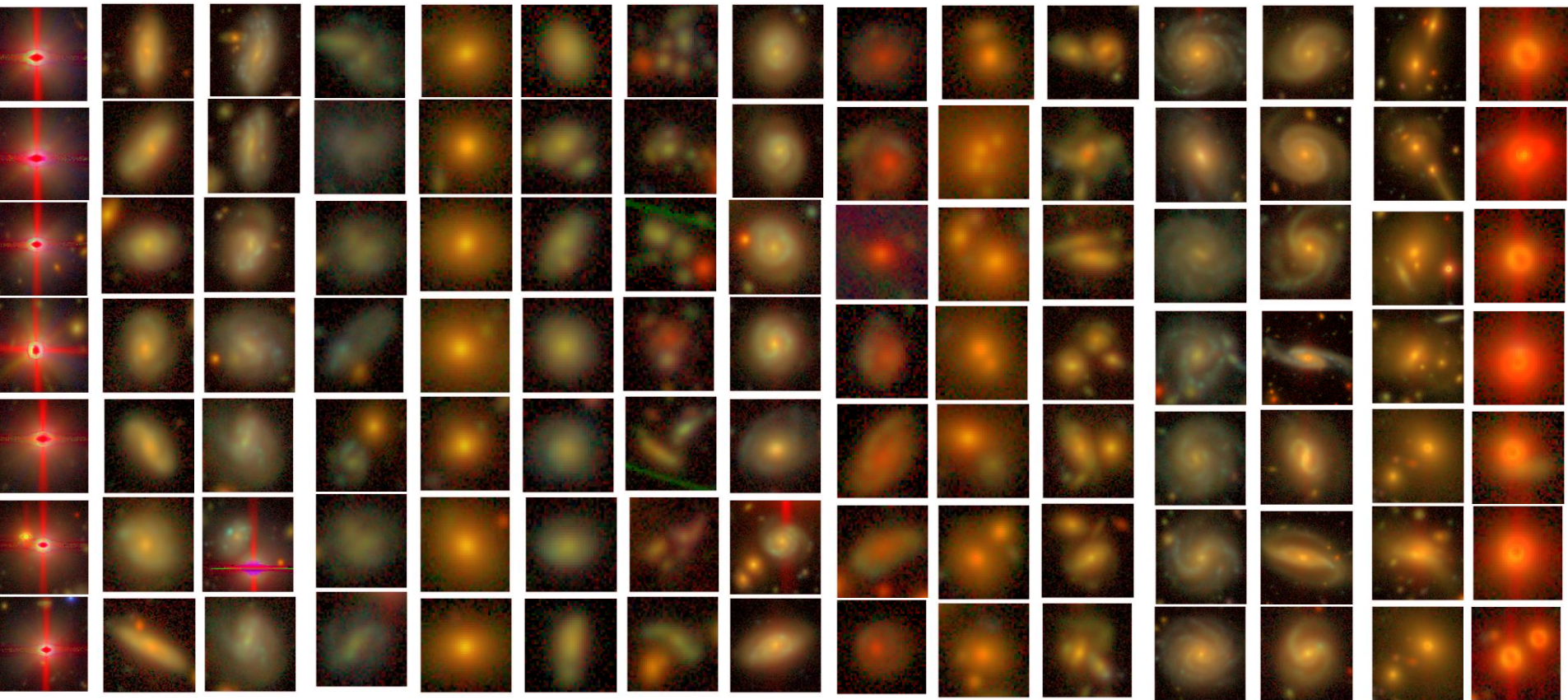


- Morphology is fundamental for all galaxies science
- ...and key inputs for photo-z pipelines, SN light-curve classification, determining AGN morphologies etc.
- LSST volume and cadence ideally requires unsupervised methods
- Working prototype implemented on HST, preliminary test on HSC, to be deployed on LSST ComCam
- Fast, flexible morphological pipeline for LSST

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Galaxy morphologies for LSST

Unsupervised machine learning – test on HSC Deep



G. Martin et al in prep.

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- 3 sq degrees, 40k galaxies, 5 sigma above background
- 25 cores, 500 GB RAM
- ~100ms per galaxy