Variability of Young Massive Stars in the Arches Cluster

Our goal

- Discover massive eclipsing binaries.
- Determine physical parameters with follow-up spectroscopy.
- Constrain star formation and evolutionary models.
- Discover an upper limit of the initial mass function.

Our laboratory

- Arches Cluster.

Challenges on the way

- Adaptive Optics data – Complex PSF structure.
- Mathematical PSF failed to model the stellar light profile.
- Empirical PSF is mandatory for accurate photometry.

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Light curves

ISIS (Alard 2000)

DAOPHOT (Stetson 1987)

StarFinder (Diolaiti 2000)

StarFinder (Schoedel 2010)
Are you curious???

Well in this case you can start by searching for something that looks like this...

Thank you