**BACKGROUND**

What are Manxes?
Can objects on LP orbits be inactive?
Oort → it’s dead comets
Levison → it isn’t there
Now -> it was always inactive

2013 LU28
Discovered 6/8/13 – (\(r = 21.8\) au)
Mt. Lemmon Survey in Arizona

**OBJECTIVES**

Large distance from perihelion – observe a Manx comet over its approach to the sun
Watch the onset of any potential activity
What’s so special about Manxes?
Constrain solar system formation models

**METHODS**

Observations and Data Reduction
Image Processing
Flattened and calibrated with pipeline
Photometry & SB with IRAF
Color corrections to the SDSS \(r'\) band
Sublimation Modeling

Analysis
Spectral Reflectivity
Surface Ice Sublimation Models
Dust grain

Nucleus + gas flow

Nucleus Size
Dust Production Limits

**RESULTS**

Surface Ice Sublimation Models

**DISCUSSION**

Spectral Reflectivity
Consistent with typical comets

Possible Outburst with Exposed Ice
Similar to Chiron’s activity

Dust Model
Small amount of dust
Only small fraction of total SA
Small sized ice patches

If Active, Why No Fuzz?
Chiron bound dust “atmosphere”
Critical dust grain size for lift off

Bursts of Activity
Can turn off and on
Multiple trips around the sun

Very large object
Comets rad \(~ 0.3 \sim 10\) km
2013 LU28 rad \(~ 5.5\) km
Slightly larger than Lutetia

**REFERENCES**

See Final Slide for References