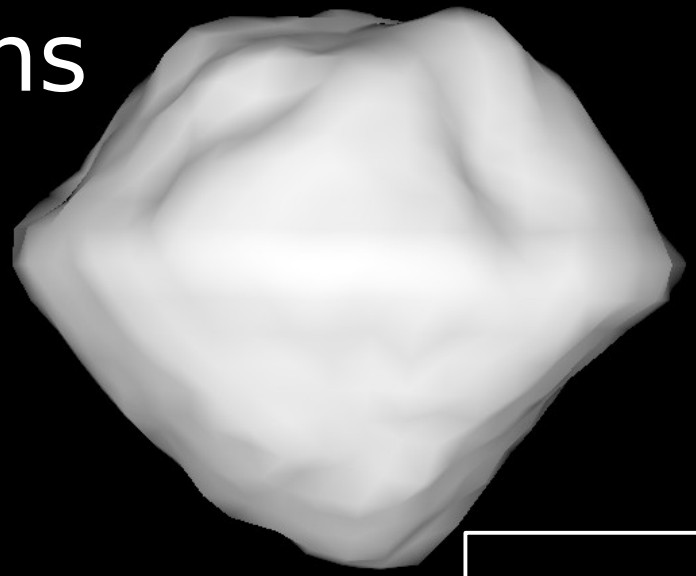
Shape Model of 3200 Phaethon

From radar, lightcurve, and occultation observations



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with many coauthors!

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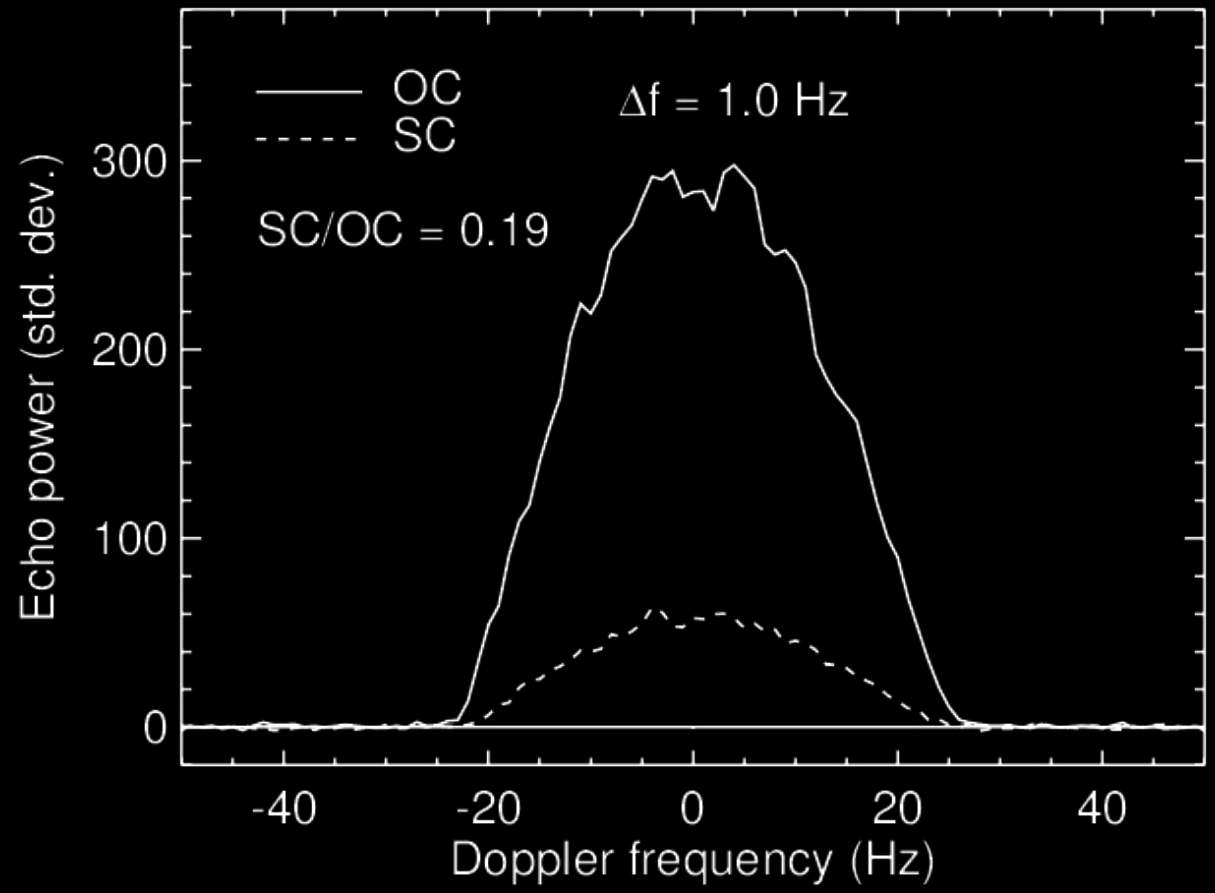
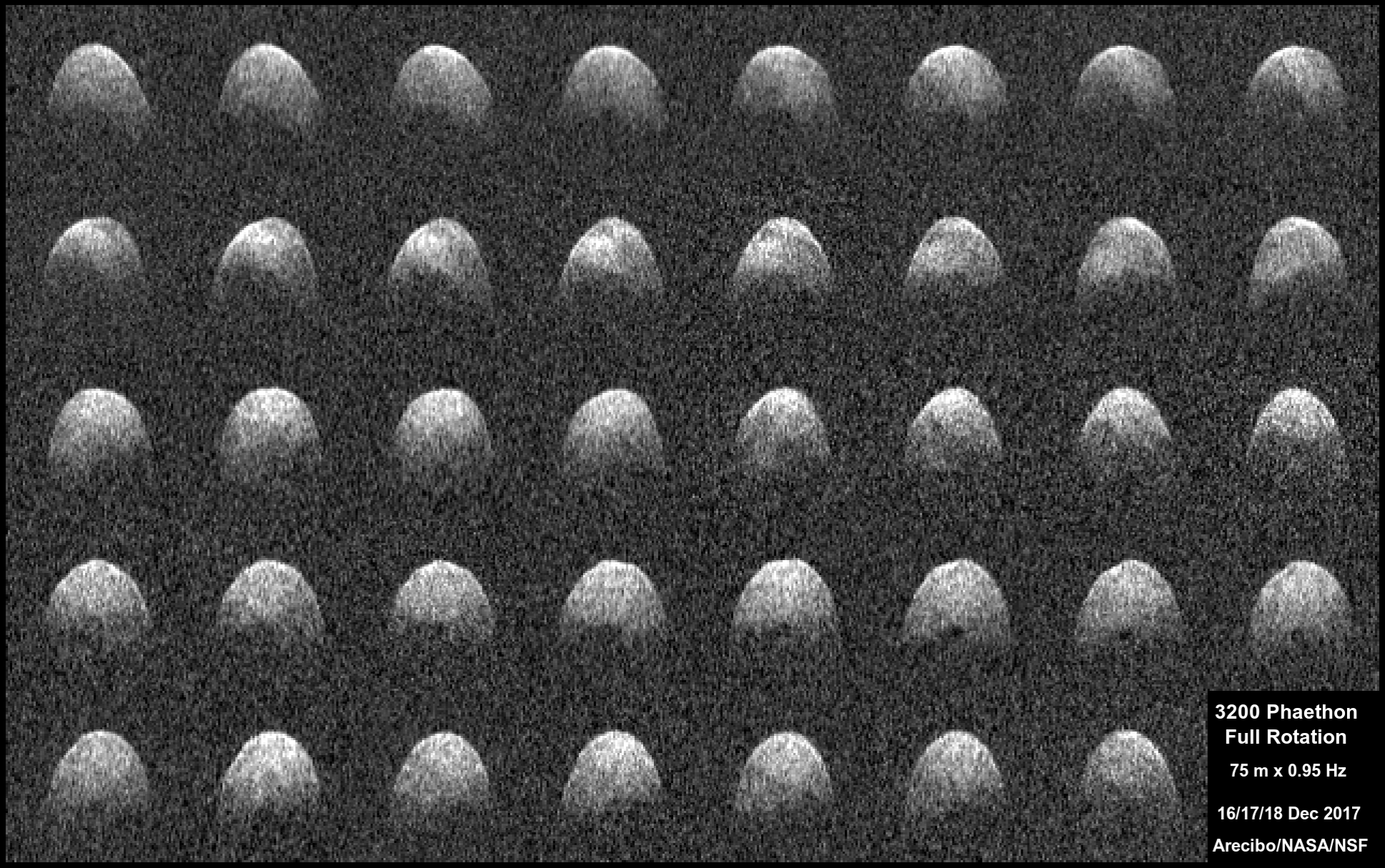
Phaethon: CW Spectrum

- Bandwidth is about 48 Hz; requires equatorial diameter >6.0 km
- No evidence of coma
- *Taylor et al. 2019*



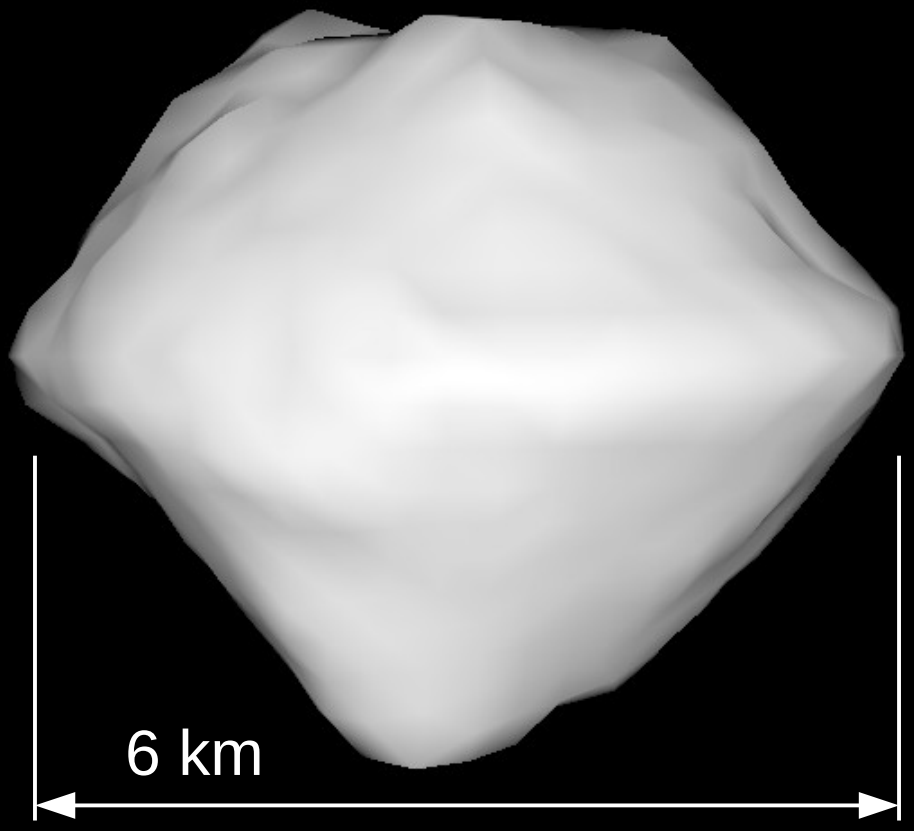
$$B = \frac{4\pi D \cos\phi}{\lambda_0 P_{spin}}$$

Radar Images from Arecibo



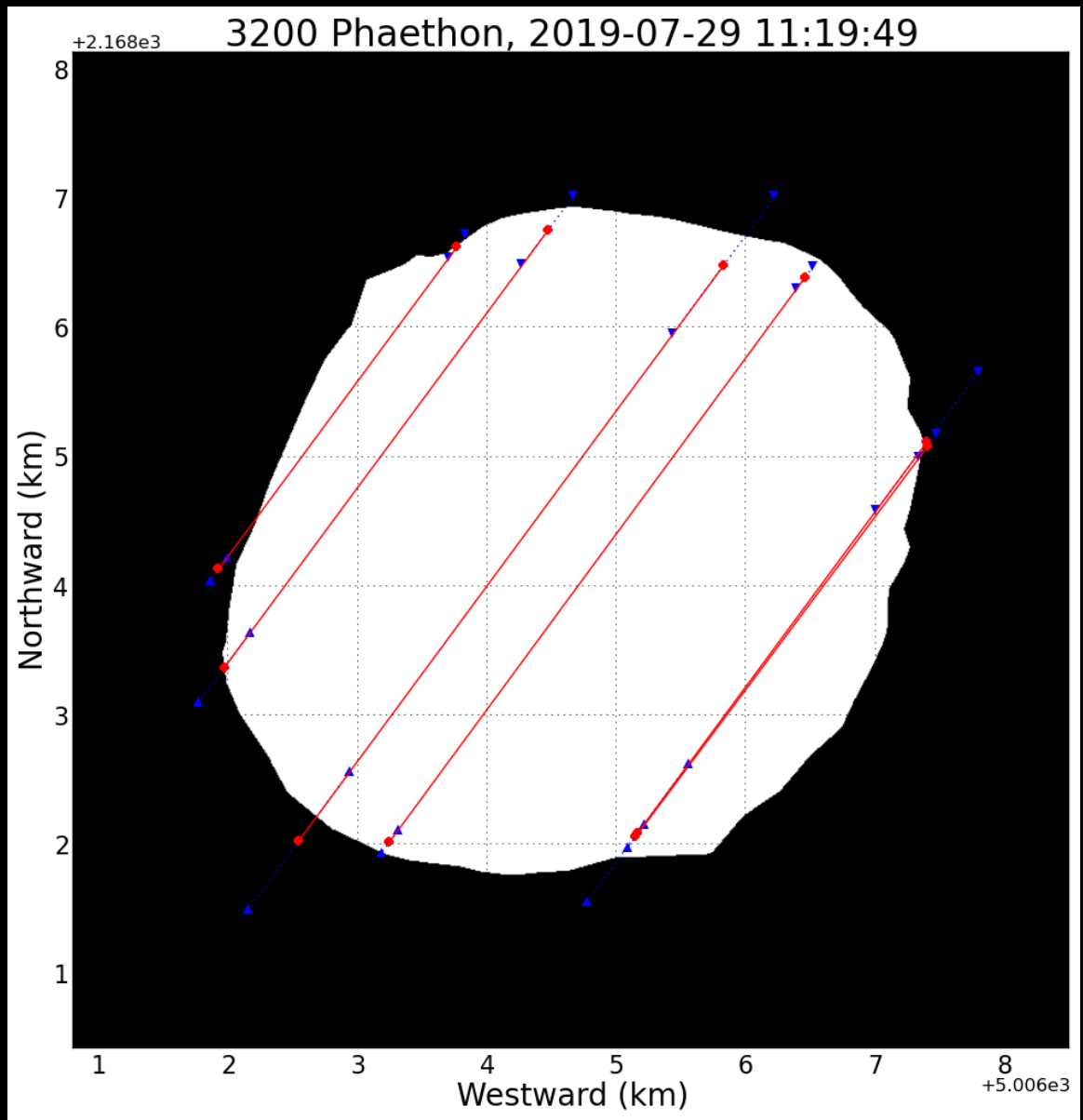
Shape Model

- Using radar and lightcurve data
- Maximum extent (breadth) along each principal axis: 6.6 km, 6.2 km, 5.3 km
- Volume-equivalent diameter: 5.4 km



Occultations

- See presentation by David Dunham et al.
- For occultation chords, best-fit model is about 4% smaller (compared to best fit for radar data)



Thank you!

- If you have more Phaethon lightcurves, please contact me! smarshal@naic.edu
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