

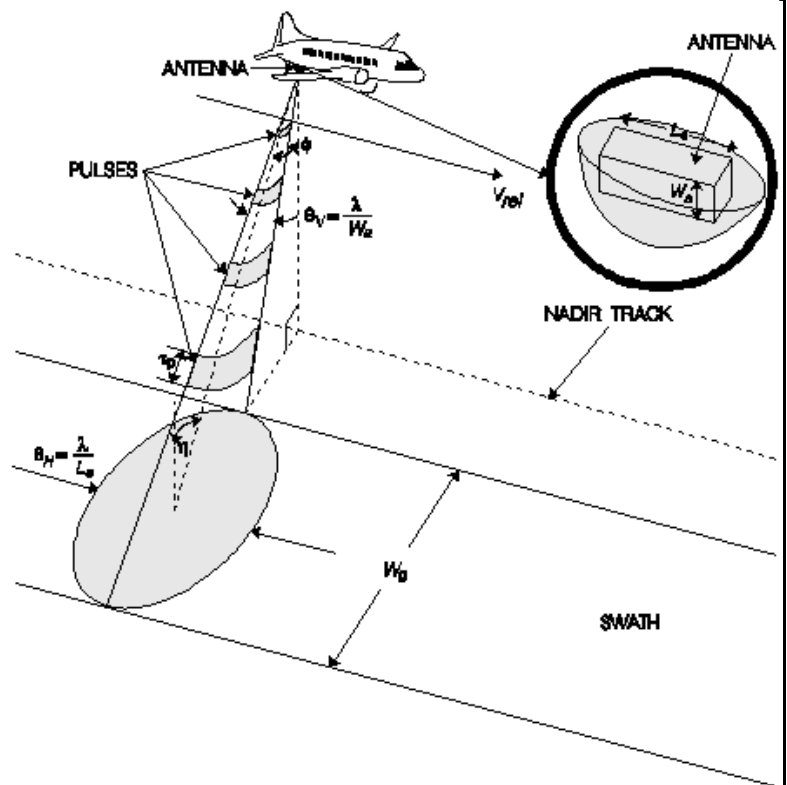
Physics & Space Sciences department presents:

Radar Love:

Observing the planets with synthetic aperture radar

Synthetic aperture radar (SAR) represents a unique way to observe the surface of planets. Using ground-based and orbital platforms, radars have provided new information about the topography, composition, and surface roughness of our planetary neighbors, as well as our own world.

For planets with thick, obscuring atmospheres (like Venus and Saturn's moon Titan), radar observations have provided our only high-resolution view of their varied and surprisingly diverse surfaces. In this talk, I will summarize recent results from two radars orbiting two very different worlds: the Lunar Reconnaissance Orbiter's Mini-RF instrument and the Cassini RADAR instrument. In particular, I will discuss (a) how the unusual radar properties of ice may lead to its detection in the permanently shadowed regions at the poles of the Moon, and (b) how observations of Titan's craters provide the first quantitative measure of the amount of erosion on its surface, the only body in the outer solar system with extensive surface-atmosphere exchange.



For planets with thick, obscuring atmospheres (like Venus and Saturn's moon Titan), radar observations have provided our only high-resolution view of their varied and surprisingly diverse surfaces. In this talk, I will summarize recent results from two radars orbiting two very different worlds: the Lunar Reconnaissance Orbiter's Mini-RF instrument and the Cassini RADAR instrument. In particular, I will discuss (a) how the unusual radar properties of ice may lead to its detection in the permanently shadowed regions at the poles of the Moon, and (b) how observations of Titan's craters provide the first quantitative measure of the amount of erosion on its surface, the only body in the outer solar system with extensive surface-atmosphere exchange.

Friday, February 1, 2013

4:00—5:00 PM

OPS Room 140



Dr. Catherine Neish