

# Mighty Moonlets Just Got a Little Bigger

Cassini has discovered many **moonlets**, or small moons, embedded throughout Saturn's rings. Previously, the largest moonlets discovered within the rings were only a few hundred meters across, up to the size of several football fields. However, recent observations in the Huygens ringlet may mean that embedded moonlets can grow much larger.

The **Huygens ringlet** is located in a gap about 73,000 miles from Saturn, which is a little less than 1/3rd the distance between the Earth and our moon. By combining about 300 images, scientists revealed the ringlet's non-circular shape, with multiple superimposed regular patterns.

Wake structures also appear, extending into the ringlet at two locations (A and B, below). Such wake structures always accompany embedded moonlets. Unlike their tiny cousins, these moonlets are about 4 km across, or more than 40 football fields!

The moonlets may have formed from the breakup of a larger satellite, and may be a clue to the formation of the Huygens ringlet. Watching the evolution of objects embedded in ring systems informs us about planetary formation processes in proto-planetary disks.

Huygens Ringlet



Width of the Huygens ringlet with longitude. Satellite wakes suggesting moonlets are labeled A and B.

A

B