



(Courtesy NASA)

The Aeronomy of Ice in the Mesosphere experiment studies Polar Mesospheric Clouds, the ice crystal clouds that form in the Earth's mesosphere.

Frequently Asked Questions

What is the purpose of the AIM mission?

The primary goal of the AIM mission is to help scientists understand why polar mesospheric clouds (PMCs) form and vary, and whether they are affected by the Earth's changing climate. By measuring PMCs and the environment in which they form, AIM is able to quantify the connection between these clouds and the meteorology of the polar mesosphere. AIM results will thus provide researchers with a foundation for the study of long-term variability in the mesosphere and its relationship to climate change.

What are Polar Mesospheric Clouds?

PMCs—also called noctilucent or “night-shining” clouds—are located about 82 km (50 miles) above the surface of the Earth. They are composed of water ice crystals that are less than about 100 nanometers in size. They form in the summertime at high latitudes and can only be seen from the Earth's surface near twilight, when the sun is just below the horizon and the sky is dark. Changes observed in PMCs in recent decades are possibly related to human activities and their effects on the atmosphere.

What do the CIPS and CDE instruments measure?

CIPS is a wide-angle, panoramic imager consisting of four identical cameras that image the atmosphere to determine when and where PMCs appear, their brightness, and their particle

Quick Facts

Launch date: April 25, 2007

Launch location: Vandenberg Air Force Base, California

Launch vehicle: Pegasus XL

Mission target: Upper atmospheric regions of the Earth

Primary duration: Originally scheduled for 2 years; extended through September 2012

Project description: AIM is designed to help us understand why polar mesospheric clouds (PMCs) form and why they vary, quantifying the connection between PMCs and the meteorology of the polar mesosphere.

LASP provides:

- The Cloud Imaging and Particle Size Experiment (CIPS)
- The Cosmic Dust Experiment (CDE)
- Management for the mission and control of AIM after launch

Other organizations involved:

- NASA Goddard Space Flight Center
- Hampton University
- Virginia Polytechnic Institute and State University
- Orbital Sciences Corporation

size. CDE is composed of twelve dust detectors, which measure the influx of cosmic dust to the Earth's upper atmosphere to determine what role dust plays in the formation of PMCs.

To read more about the AIM mission, visit:

<http://lasp.colorado.edu/home/missions-projects/quick-facts-aim>.

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