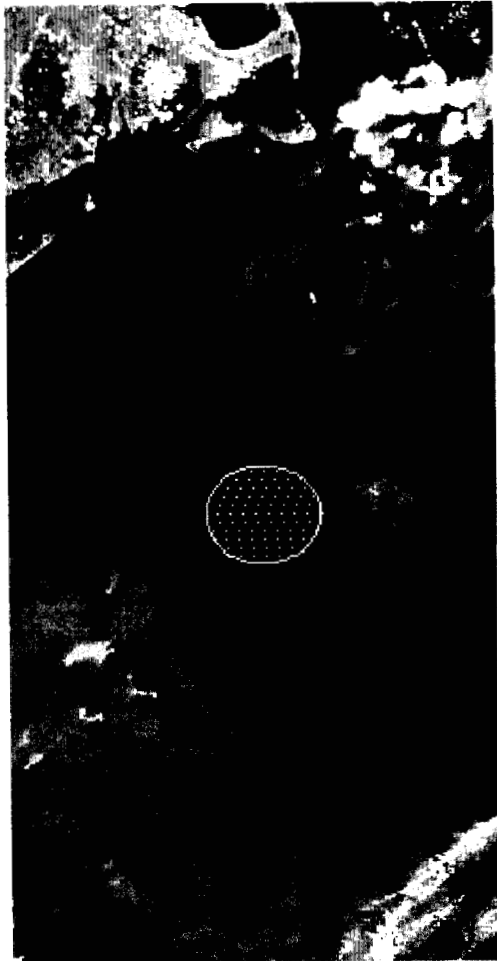




AVIRIS/SeaWiFS cross-calibration for 1999

**Betina Pavri and Robert Green
Caltech/JPL**



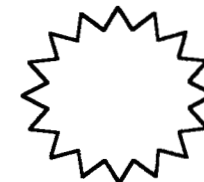
Goal: Underfly SeaWiFS ocean-color sensor with AVIRIS; use AVIRIS data to check SeaWiFS radiometric calibration

- 1. open ocean site chosen for SeaWiFS underflight; clear weather required**
- 2. match observation and illumination angles, location, and time**
- 3. convolve AVIRIS data to SeaWiFS response**
- 4. produce radiance comparison**

Matching SeaWiFS geometry



SeaWiFS- scans cross track, but at 20° behind the instrument to avoid sun-glint



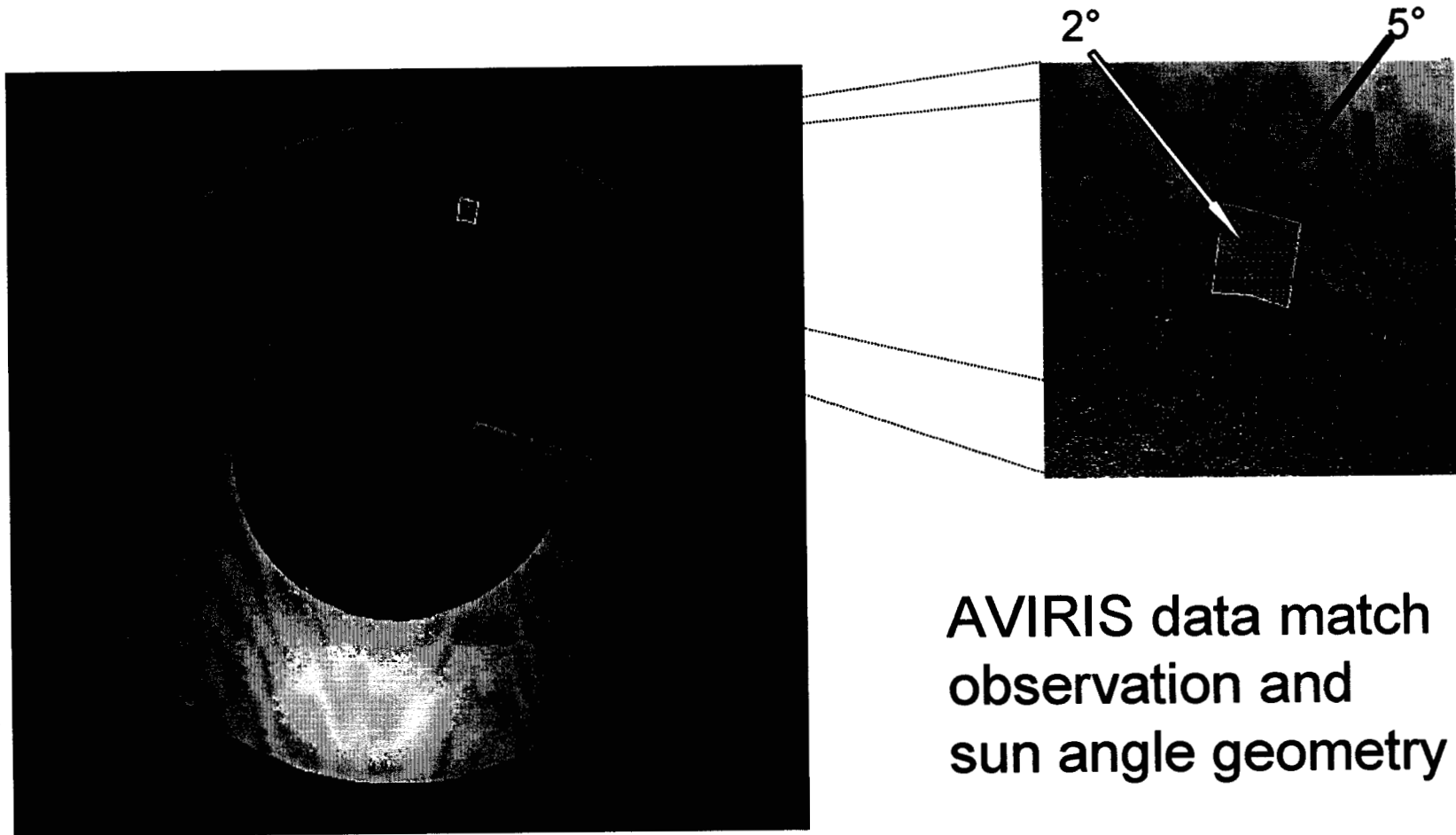
20°

common illumination and observation geometry

AVIRIS images $\pm 15^\circ$ cross-track
- can't match SeaWiFS

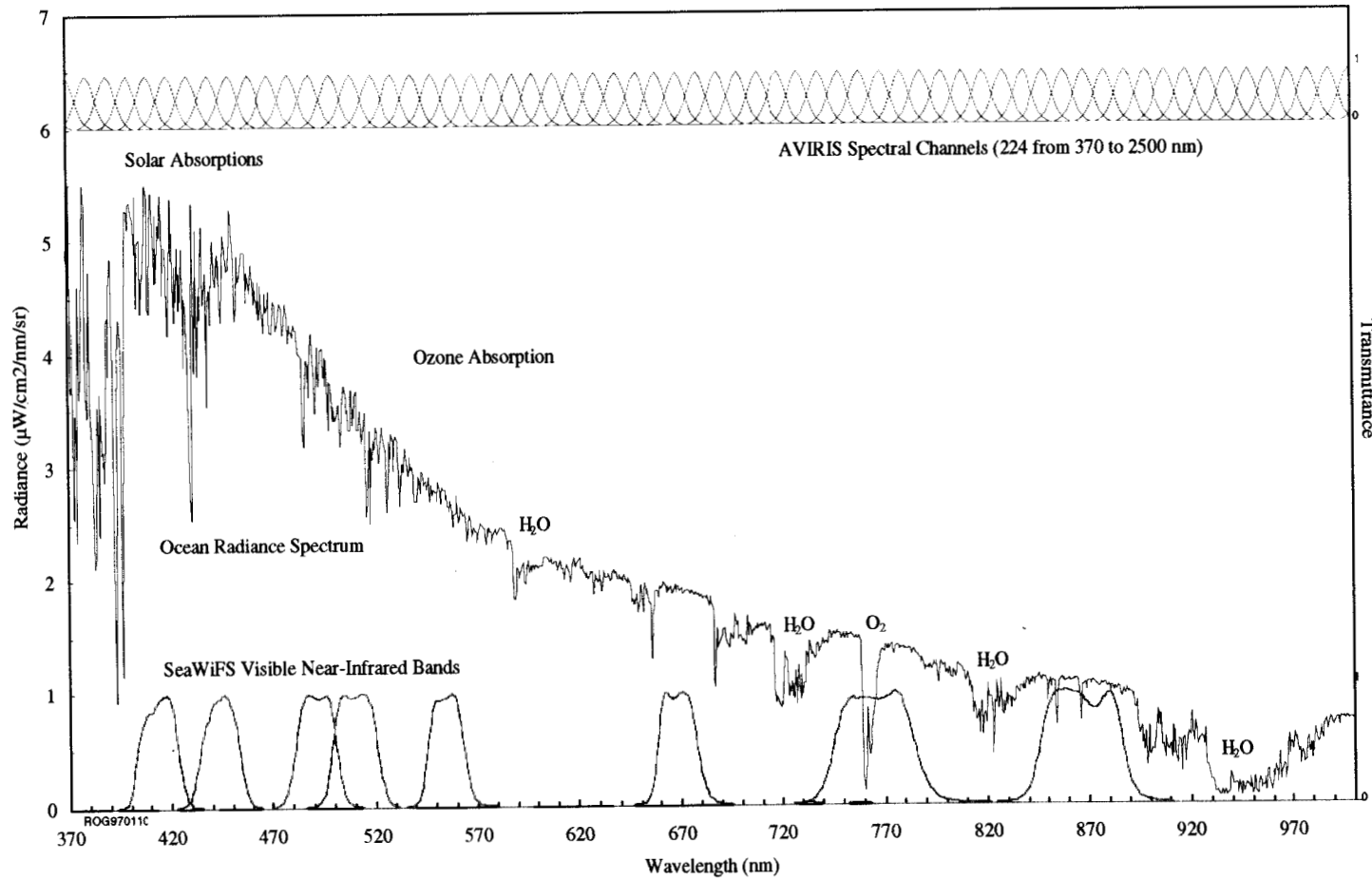
$\pm 15^\circ$

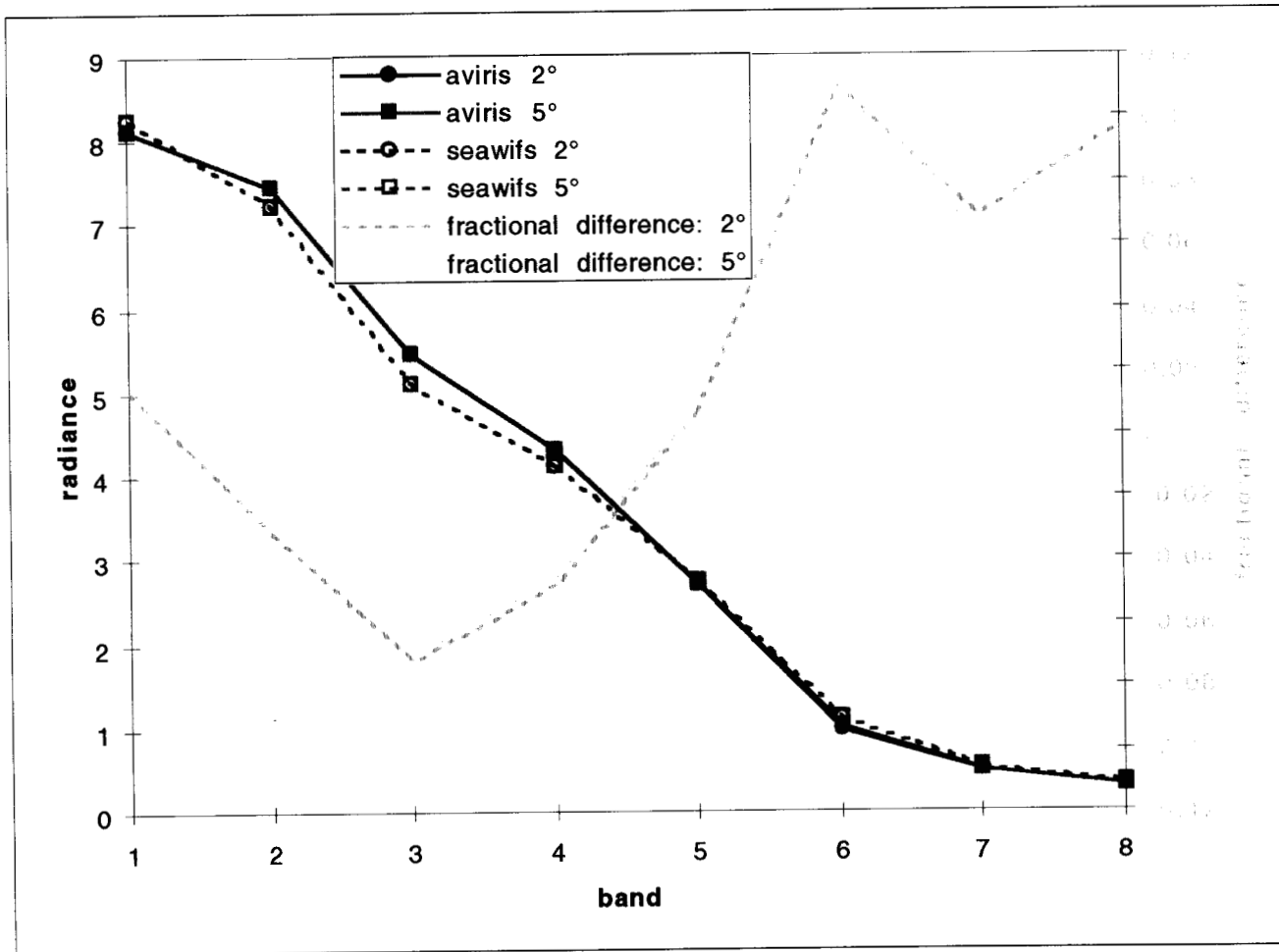




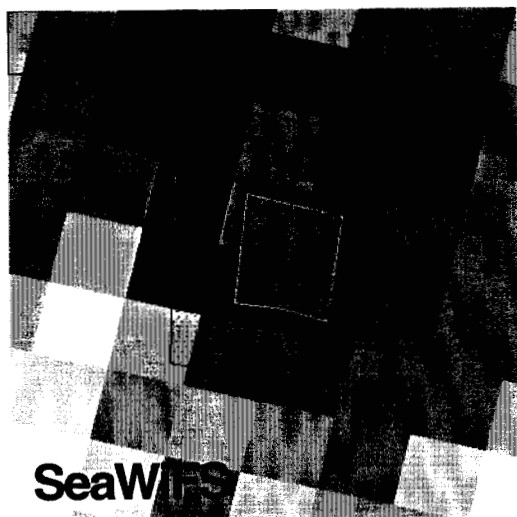
AVIRIS data match
observation and
sun angle geometry

Matching SeaWiFS response



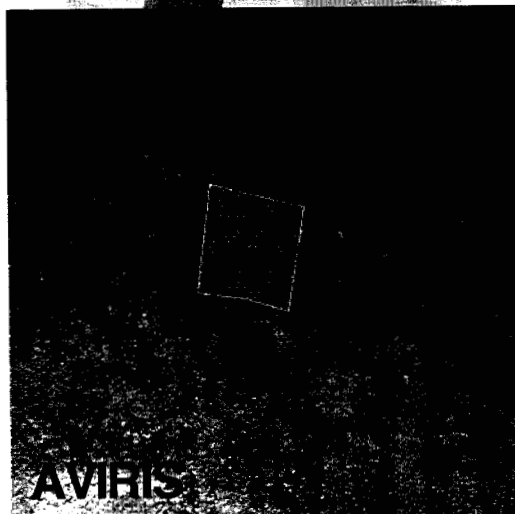


AVIRIS underflights



AVIRIS underflights of SeaWiFS:

<u>date</u>	<u>status</u>
970520	delivered
971002	delivered
990807	delivered
991001	in progress



AVIRIS vicarious calibration experiments

JERS-1 OPS: Japanese Earth Resources Satellite 1
Optical Sensor

OCTS: Ocean Color and Temperature Scanner

AVNIR: Advanced Visible and Near Infrared Radiometer

SeaWiFS: Sea-viewing Wide Field-of-view Sensor

-
- AVIRIS is an excellent platform for the vicarious calibration of spaceborne sensors
 - AVIRIS is exceptionally well-calibrated, providing check on post-launch sensor calibration
 - AVIRIS calibrated in the lab (pre- and post-season)
 - radiometrically calibrated pre-flight (monthly)
 - radiometrically calibrated in-flight (every 2-3 months)
 - AVIRIS team has experience with cal. techniques
 - AVIRIS platform and schedule are flexible enough to meet unusual demands