**Target:** Our novel Net Flux Radiometer (NFR) concept responds to the science objectives of a future probe mission to either (a) Uranus or (b) Neptune, but is also applicable to missions to other planets with atmospheres.

**Science:**
Our NFR onboard a probe descending deep into the atmosphere of either Ice Giant will greatly contribute to answering:
- What are the altitudes/pressures and compositions of the cloud layers?
- How do the cloud layers interact with solar visible and planetary thermal radiation to influence the atmospheric energy balance?
- How does the energy balance contribute to atmospheric dynamics?

With our NFR we will determine:
- the planet’s atmospheric heat balance
- the planet’s tropospheric 3-D flow

**Objectives:**
In this PICASSO effort we are concentrating on the technology maturation of the Focal Plane Assembly (FPA) housed in a vacuum micro-vessel.

**CoIs:** C. A. Nixon, G. Villanueva, G. Quilligan/NASA GSFC; N. Gorius/CU; R. K. Achterburg, V. Cottini, T. Hewagama/UMCP

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**Key Milestones July–December 2018:**
- Kick-off Meeting (July 2018 – James Gaier agreement)
- Requirements and specifications complete (Aug 2018)
- Detector, Winston Cone, Fold mirror, FEE-MCD ASIC and vacuum micro-vessel design complete (Oct 2018)
- Manufacturing contract placed with IR labs (Nov 2018)
- Filter set manufacture and radiative transfer model agreement in place with Oxford University (Nov 2018)

**From kick off to date: TRL (2) to (2)**