Herschel HSOCG#11
Status of S/C disposal discussion

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Herschel S/C Disposal Strategy

- See presentation of HSOCG#10 for the various options discussed in the past
- Parallel discussion are on-going
  - Trailblazer Task Force
    - Looking at the feasibility of exploring the cis-lunar space for future Human Spaceflight Missions
  - HSO/SRE bi-lateral
    - Balancing all options on the table
  - Lunar Impact Science case (Lunar Impact directly after HeII depletion)
    - Paper was issued: “The Case for a Herschel Lunar Impact”; HER/OX/PR/1; revision B; 28th June 2012; Originator: N. E. Bowles
    - MOC Mission Analysis are checking on feasibility to reach specified impact sites
- No final conclusion reached yet

Excerpt from Final Presentation of Trail Blazer Task Force

Independently of a potential trailblazer mission, the following end-of-life disposal options have been agreed between SRE and HSO for Herschel (and Planck):

- **Option 1**: manoeuvre Herschel and Planck to a so called non-return heliocentric orbit, which will minimise the probability of return to the Earth/Moon system for at least 200 years. Slots for such manoeuvres have been identified in May and October 2013 for Herschel (and in April and October 2013 for Planck).
- **Option 2**: controlled, high velocity impact into the lunar surface (close to e.g. South Pole) for remote subsurface analysis (volatiles, water, etc). The impact would be observed by ground based telescopes and possibly NASA's LRO mission). A science case for this is being developed by UK scientists and may (eventually) be presented for endorsement (or not …) by the relevant science advisory committee(s)
- **Option 3**: controlled, destructive re-entry in the earth's atmosphere - not retained as the spacecraft has not been designed for this and as there is operational risks associated with this option
- **Option 4**: trailblazer mission (subject of the TF) followed by either Option 1 or 2 disposal