

# **Report of the Space Telescope Users' Committee (STUC) Meeting, 4 May 2005**

Statement of the Space Telescope Users Committee (STUC) on the Risk Assessment for the Future Restart of the Gyro Turned off after an Early Transition to HST Two-Gyro Mode.

4 May 2005.

Eight members of the STUC\* heard presentations by Dave Leckrone and Keith Kalinowski on the above issue. The STUC was asked to weigh the risks and benefits and, if they thought the plan to be prudent, to endorse the plan to turn off Gyro 4 by 15 August 2005.

Noting:

1. The probable gain of 2500 orbits of additional science observing that an early switch to two gyro mode will provide;
2. That gyro flex lead failure is the only failure mode with a reasonable probability of occurring;
3. That the analysis by Dr. Henning Leidecker robustly predicts that a gyro that does not restart due to flex lead failure, would have failed within a few days had it been kept operating;
4. That by substituting turning off gyro 4 rather than gyro 1 the probable time lost by a failure to restart is close to zero;
5. That gyro 4 will be starting at -50C from its operating temperature, thus slowing reaction rates during startup;
6. That turning off gyro 2 is likely to give a smaller gain in science orbits;
7. That telemetry indicates no broken flex leads at present, so that the possibility of failure to restart due to this preexisting condition is remote;
8. The STUC endorses the decision to move to two gyro mode early by turning off Gyro 4 by 15 August 2005.
9. \* Dave Axon, Martin Barstow, Eric Emsellen, Martin Elvis (Chair), Laura Ferrarese, Bob O'Dell, Monica Tosi, Don York. Regina Schulte-Ladbeck and Pat McCarthy were unable to join the meeting.