



FIRST/Planck Project

Fax No : (31) 71 565 5244

Tel. No : (31) 71 565 5962

Ref. : PT-06620

Date : 13 April, 1999

From : T. Passvogel (SCI-PT)

Page : 1 of 1 + 1 attached

To : PACS --

Fax No:

A. Poglitsch (MPE/Garching)

49 89 3299 3292

N. Geis (MPE/Garching)

SPIRE --

M. Griffin (QMWC/London)

44 181 980 0986

B. Swinyard (RAL/Oxfordshire)

44 1235 44 5660

HIFI --

Th. de Graauw (SRON/Groningen)

050 363 4033

D. Beintema (SRON/Groningen)

Copy : ESTEC -- F. Felici, M. Anderegg, H. Schaap, B. Guillaume (SCI-PT)
ESTEC -- G. Pilbratt (SCI-SA)

Subject : FIRST - FPU / Telescope Interfaces

Dear all,

As promised in the meeting in QMWC last week, please find attached the definition of the position of the optical bench w.r.t. focus position.

You find in the attachment an update of para 5.8.1.1 of the IID-A, which I believe should contain this information.

Together with the inclusion of the optical bench position, you find an update of the telescope parameters. Note that the f-number of the primary mirror is (tbc) - pending an action placed on all three PIs during the latest FST.

Best regards,

T. Passvogel

Attachment: para 5.8.1.1 - IID-A

ESTEC

Postbus 299 - NL 2200 AG Noordwijk - Keplerlaan 1 - NL 2201 AZ Noordwijk ZH
<http://sci.esa.int/first> - <http://sci.esa.int/planck>

5.8 OPTICAL INTERFACES

5.8.1 FIRST Instruments

5.8.1.1 FIRST Telescope Interfaces

The FIRST telescope is a Cassegrain or a Ritchey Chretien telescope. Its main characteristics are:

- the pupil is limited by the secondary reflector
- the aperture stop is at the secondary mirror
- field of view:
 - free primary mirror diameter: 3500 mm
 - telescope field of view arcmin unvignetted: $\pm 0.25^\circ$
 - linear central obscuration: < 3.5 %
- optical quality: the telescope will be diffraction limited at 150 μm with a goal to be diffraction limited at 80 μm
- system focal length: 28.5 m
- focus position above optical bench 202 mm
- focus position vs. primary mirror vertex: 975 mm
- system f/D, where D is the effective aperture 8.68
- primary mirror f-number 0.5 (TBC)

The telescope configuration is given in figure 5.8.1-1.

The optical interfaces are controlled via a set of mechanical interfaces defined w.r.t. spacecraft co-ordinates. The focal plane units will be mechanically mounted to the FIRST optical bench. This optical bench is aligned to the telescope in accordance with the alignment requirements as defined in para 5.3 above.

TBD

Figure 5.8.1-1: FIRST Telescope characteristics