

Report for MSSL **Project Review Meeting**

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Solar-B EIS **Launch Feb 2004**

Issues of Concern

There is a difficulty in finding appropriate areas for technical progress with the constraints of the NASA selection process. The absence of the US partners who will have a major role to play in the definition of EIS (e.g. the optics technology and wavelength range) means that we cannot make firm assumptions about the configuration of the instrument.

Recent Progress

However, there has been significant progress. There was a UK consortium meeting at MSSL, which met to assess the position and to generally kick off the project, following reception of letters of intent from PPARC by all UK participating institutes.

The meeting went well and generated a good number of areas for immediate further study (actioned in the minutes of that meeting).

Management

MWT will produce a detailed management plan for the project. This will include the systems engineering management plan. The plan will refer to three important objects (documents) within the project, namely expressions of

- the user (science) Needs
- the scientific Requirements
- Specifications (i.e. technology) of a solution or solutions which meet those requirements.

Note that although there is expected to be iteration between Requirements and Specifications they will be kept conceptually separate.

In the first instance the solution will be based on the strawman/baseline as already publicised. Later forms of the solution will be proposed by from US

Science

An important function of the Science Team (chaired by PI : JLC) will be to refine the Scientific Requirements. UK Science Team members will meet in late July to discuss.

Instrumentation

Activities are notable in two areas.

Optical Modelling (Action 16). Work has commenced on producing a ray-tracing model of EIS, using Zemax software. So far this has not produced a design which is convergent with prior performance models by NAOJ. However, we have just received further information about the proposed Variable Line Spacing gratings, and we (MWT, RH) are making efforts to understand their operation.

Spots vs Compression (Action 13). Some TRACE (same orbit) CCD images of solar features have been seen (RDB, MWT, AJM) which show artefacts (“spikes” or rather SPOTS - more than single pixels) due, presumably, to earth-trapped radiation particles impinging on the detector. Some thinking has taken place about strategies for dealing with these features - perhaps some form of onboard image processing will be necessary. There is a need to assess the origin of these SPOTS, recalling that TRACE detector a) has Lumogen coating and b) is front-illuminated, neither being the case for the baseline EIS CCD. This highlights the need for a CCD person to be employed and allocated to the project.

Future Activities

MWT will participate in tests of NOAJ’s tests of CCD’s quantum efficiency in the EUV at the UVSOR synchrotron radiation facility in Nagoya, June 29-July 3.

There will be a meeting in Japan ~20 July to discuss status and possible US proposals.

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