

Identified Changes in Science Investigation Section [example format]

Single-column Page

One of the key aspects of meeting Science Objective 3.5 will be to determine the time for auroral emission to maximize after the impact of a solar wind structure, with an accuracy of *10* minutes compared to an expected performance of 5 minutes. The proposed mission will achieve this by flying the selected instrument in an orbit of 500 x 500 *km* altitude.

The two-year primary science mission duration will enable observation of 550 targets of interest, which offers a 22% margin over the 450-target minimum needed to complete the baseline investigation's Science Objective B and 83% margin over the minimum needed to complete the threshold investigation's Science Objective B. A descoped mission would observe *455* targets, sufficient to meet the baseline investigation requirements and offering *52%* margin over the threshold investigation requirements, with the same required *10*-min accuracy.

Two-column Page

1 One of the key aspects of meeting Science Objective 3.5 will be to determine the average time for auroral emission to maximize after the impact of solar wind structure with an accuracy of *10* minutes, compared to an expected performance of 5 minutes. The proposed mission will achieve this by flying the selected instrument in an orbit of 500 x 500 *km* altitude.

2 The two-year primary science mission duration will enable observation of 550

targets of interest, which offers a 22% margin over the 450-target minimum needed to complete the baseline investigation's Science Objective B and 83% margin over the minimum needed to complete the threshold investigation's Science Objective B. A descoped mission would observe *455* targets, sufficient to meet the baseline investigation requirements and offering *52%* margin over the threshold investigation requirements, with the same required *10*-min accuracy.

Entries in Science Change Matrix
[example format]

Change number	Section(s) / Page(s)	Change in Science Objective or Requirement from Step 1 to Step 2?	Description	Rationale
1	D.2.3, D.3, STM	Yes (Obj. 2B, 2C)	Solar wind structure impact timing accuracy (requirement) updated from 15 min to 10 min.	Phase A mission design and science studies showed the need for a stronger requirement than was planned in the Step-1 proposal.
2	D.2.3	No	On page D-11: orbit altitude changed from 500 m to 500 km.	Typo correction.
3	D.2.3, D.3, STM	No	Descoped mission performance changed from 400 to 455 target observations, which changes the margin over threshold investigation requirements from 33% to 52%.	This change was implemented as part of the Step-1 Clarification Response Document (response to Science PMW-05).