

STEREO CONFIGURATION CHANGE REQUEST

For Office Use Only	TITLE: SWEA Self-induced Shock Testing	CLASS:	NUMBER:
		I II	DATE:
CONFIGURED ITEM: IMPACT SWEA Instrument		ORIGINATOR: Name: Dave Curtis Organization: U.C. Berkeley Phone: 510-642-5998 Email: dwc@ssl.berkeley.edu	PRIORITY: <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Urgent <input type="checkbox"/> Emergency
STS Number:	Payload: STEREO		
Component :	Experiment: IMPACT		
Component Part #:	Serial #:		
TYPE OF REQUEST:		RESPONSIBLE ORGANIZATION/INDIVIDUAL:	IMPACTS: (If yes, attach additional pages)
<input type="checkbox"/>	Configuration		
<input type="checkbox"/>	Deviation	#	COST: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input checked="" type="checkbox"/>	Waiver	#	SCHEDULE: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input type="checkbox"/>	Other:		
REASONS FOR CHANGE:			RETEST REQUIRED:
<input type="checkbox"/>	Improvement	<input type="checkbox"/> Test/Payload Failure	<input checked="" type="checkbox"/> No
<input type="checkbox"/>	Reliability	<input type="checkbox"/> Specification Requirements	<input type="checkbox"/> Yes
		<input type="checkbox"/> New Document:	
		<input checked="" type="checkbox"/> Other: Handling risk	
PROPOSED CHANGE (Attach additional pages as required) Section 2.2.4 of the Environmental Spec states that "Self induced shock shall be tested at the observatory level by actuation of the device, allowing release of booms, protective covers, etc. This test shall be performed twice." The IMPACT Project proposes performing the self-induced shock test once on each FM at the full-up boom level.			
RATIONALE (Attach additional pages as required): SWEA is located at the end of the IMPACT Boom. The instrument is intolerant to impact, and the extensive handling of SWEA and of the Boom (while SWEA is attached) during these tests presents excessive risk to the instrument. Qualitatively, the risk of damage from running all four tests (two for each FM) exceeds the risk of flight failure from performing only two tests (one for each FM). The two main mitigating circumstances follow: 1. The SWEA vibration test spec envelopes the self-shock environment. We instrumented the SWEA mass dummy during protoflight boom deployment testing; the accelerations and frequencies recovered from that test were added to the SWEA vibration test spec. 2. The two boom-level shock tests will be performed in a test chamber using a g-negation fixture. This kind of set up is not feasible at the observatory level.			
DOCUMENTS/DRAWINGS AFFECTED (Document No./Title/Section) : 7381-9003 rev B / STEREO Environment Definition, Observatory, Component and Instrument Test / Section 2.2.4 (Component and Subsystem Shock Design and Test)			
Requirements Document			
AFFECTED (Check all that apply):			
FLIGHT SYSTEMS:		GROUND SYSTEMS:	
<input type="checkbox"/>	Avionics	<input type="checkbox"/>	Electrical and Cables
<input checked="" type="checkbox"/>	Experiment	<input type="checkbox"/>	Software/Firmware
<input checked="" type="checkbox"/>	Structures and Mechanical	<input type="checkbox"/>	Other:
REQUIRED APPROVAL DATE: _____			
REQUIRED JUSTIFICATION:			
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			I		DATE:	
			II			
CONTRACT/AGREEMENT NUMBER EFFECTIVITY:						
STEREO NAS5-97271		√	IMPACT S-13635Y		PLASTIC NAS5-00132	SECCHI S-13631Y
DOCUMENTS/DRAWINGS TO BE REVISED:						
Document/Drawing Number:		Document/Drawing Title:		Section(s) No.	EO No.:	Date Completed:
PROCESSING APPROVAL:						
CCB						
Out of Board						
Emergency		Systems Engineer			Date	
CCB APPROVAL:						
CCB ACTION DATE:		CCB ACTION ITEMS/CONDITIONS:				
Approved Denied Withdrawn Hold						
CLOSEOUT COMMENTS:					DATE OF CLOSEOUT:	
					CMO	