December 2011 MSS/LPS/SPS Joint Subcommittee Meeting
ABSTRACT SUBMITTAL FORM

The submission of an abstract is an agreement to complete a final paper for publication and attend the meeting to present this information. Complete all information requested in the author and co-author information sections; the first author listed will receive paper acceptance notices and all correspondence. Abstracts must be submitted electronically; submittal instructions are located in the call for papers. **The abstract deadline date is June 13, 2011.**

ABSTRACT INFORMATION

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MANAGEMENT APPROVAL

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Unclassified Abstract
(250-300 words; do not include figures or tables)

Solid Propulsion Systems, Subsystems, and Components Service Life Extension

The service life extension of solid propulsion systems, subsystems, and components will be discussed based on the service life extension of the Space Transportation System Reusable Solid Rocket Motor (RSRM) and Booster Separation Motors (BSM). The RSRM is certified for an age life of five years. In the aftermath of the Columbia accident there were a number of motors that were approaching the end of their five year service life certification. The RSRM Project initiated an assessment to determine if the service life of these motors could be extended. With the advent of the Constellation Program, a flight test was proposed that would utilize one of the RSRMs which had been returned from the launch site due to the expiration of its five year service life certification and twelve surplus Chemical Systems Division BSMs which had exceeded their eight year service life.

The RSRM age life tracking philosophy which establishes when the clock starts for age life tracking will be described. The role of the following activities in service life extension will be discussed: subscale testing, accelerated aging, dissecting full scale aged hardware, static testing full scale aged motors, data mining industry data, and using the fleet leader approach. The service life certification and extension of the BSMs will also be presented.

Note: Paper submitted for inclusion in the Solid Propulsion Subsystems and Components Special Session.