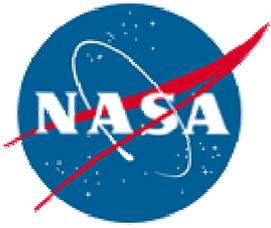


Space Environment Testbed Breakout Session Charge

**Ken LaBel, NASA/GSFC
*LWS/SET Project Technologist***

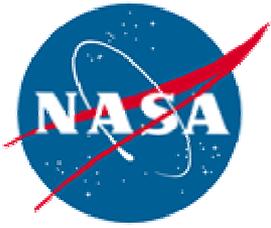
11 September 2003





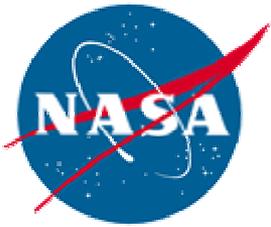
Purpose of Breakout Sessions

➔ *Prioritize topics for the next NRA* ←



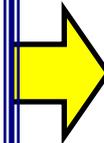
Suggested Breakout Session Agenda

- **Introductions**
- **Review focus of Breakout Session**
 - **SET Goal & Objectives**
 - **Examples of SET Products**
 - **List of past & current NRA Awards**
 - **Criteria for inclusion in SET-2 NRA**
- **List candidate topics using:**
 - **Presentations**
 - **Brainstorming**
- **Discuss appropriateness of topics for SET Project**
- **Discuss data collection requirements**
- **Prepare data sheets (in package)**
- **Summarize and prioritize group inputs**
- **Prepare report**
- **Present report to Workshop**



SET Goal & Objectives

- **Goal**
 - Improve the capability to accommodate or mitigate the effects of solar variability on spacecraft and instrument design and operations
- **Objectives**
 - Define the mechanisms for space environment and effects
 - Reduce uncertainties in the definitions of the induced environment and effects on spacecraft and their payloads
 - Improve design and operations guidelines and test protocols



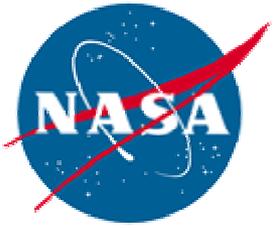
Flight Data Requirements?

Ground Data Requirements?

Examples of Products

- Validated ground test protocol
- Definition of a damage mechanism
- Development of an accommodation or mitigation technique
- Better definition of the induced environment

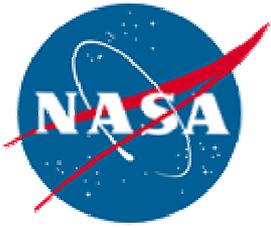
Correlative Environment Measurement Requirement?



Criteria for Inclusion in Next NRA

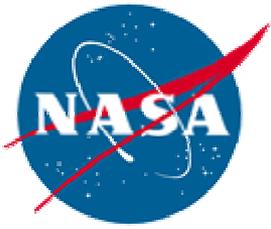
SET Space Flight

- **Technology that requires space flight for performance characterization or validation**
- **Technology candidates applicable to more than one mission or to a LWS mission**
- **Technology whose performance changes due to the effects of solar variability**
 - **Performance changes cannot be minimized by changing the spacecraft design**



Information for Flight Investigation

- **A description of the preliminary requirements for an investigation**
- **A description of how your suggested investigations can address the preliminary requirements**
- **An assessment of the readiness for flight of your investigation in the 2007-2008 timeframe**
- **A description of the scenario for data collection in space to support their suggested investigations**
- **An estimate of the cost for providing the investigation including the cost of the flight experiment**
- **An identification of approaches for partnering to support the investigation**



Data Sheet for Flight Investigations

Living with a Star/Space Environment Testbeds Workshop – September 11 -12, 2003
 Technology Breakout Session: _____

Experiment Concept Collateral Environment Measurement	Title:
Background:	
Description of Technology Requirements for On-Orbit Testing:	
Timeframe Technology is Needed: Timeframe for Technology Maturity:	Benefiting Missions: Benefits to LWS Applications Areas:
Flight Requirements: <i>(if known)</i> Orbit: Altitude: Inclination: Power: Weight (kg): Size (cm):	Name: Phone: Email: Organization:
Telemetry: Environment Measurement:	