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TITLE Radioisotope Power Systems and Their Applications for Solar System Exploration	OTHER AUTHORS	<input type="checkbox"/> Premeeting publication <input type="checkbox"/> Publication on meeting day <input type="checkbox"/> Postmeeting publication <input type="checkbox"/> Poster session <input type="checkbox"/> Handouts
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Stanley Dawson 11/23/04

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Sandra M Dawson, 09:25 AM 11/23/2004 -0800, Tibor's presentation

Date: Tue, 23 Nov 2004 09:25:49 -0800
From: Sandra M Dawson <Sandra.M.Dawson@jpl.nasa.gov>
Subject: Tibor's presentation
To: Kathleen A Lynn <Kathleen.A.Lynn@jpl.nasa.gov>
X-Accept-Language: en-us, en
User-Agent: Mozilla/5.0 (Windows; U; Windows NT 5.0; en-US; rv:1.4)
Gecko/20030624 Netscape/7.1 (ax)
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Tibor's presentation is fine as is.

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Jet Propulsion Laboratory – California Institute of Technology – Pasadena CA

Radioisotope Power Systems and Their Applications for Solar System Exploration

Presented by
Dr. Edsel Bezdin
Mars Program Advanced Studies Office
Jet Propulsion Laboratory
California Institute of Technology

At the
Nuclear Engineering and Radiation Health Physics Department
Oregon State University, Corvallis, Oregon

November 29, 2004

Outline

- Our Solar System Exploration Vision
- Power Source Classification & Brief Overview of the Options
- Introduction to Radioisotope Power Systems
- Implications of RPS Requirements through Mission Concepts
- Questions

Seminar – Oregon State University – Nuclear Engineering and Radiation Health Physics Department

The Vision for Space Exploration

Timeline from 2000 to 2020 showing milestones for Mars exploration, including Mars Reconnaissance Orbiter, Mars Science Lander, Mars Sample Return, and Mars Human Exploration.

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Mars Exploration Strategies

Common Threads: WATER, CARBON

Guiding principles (MEPAG Goals):

- I: Determine if life ever arose on Mars (past/present) (Biological Markers)
- II: Determine the climate and connected processes (present/past) (Weather & Environment)
- III: Determine the evolution of the surface and interior of Mars (Geology)
- IV: Prepare for human exploration (Robots/Human Precursors/Humans)

This decade → Next decade → Following decades

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Mars Program in This Decade

Timeline from 2001 to 2009 showing Mars Odyssey, Mars Exploration Rover, Mars Reconnaissance Orbiter, and Mars Science Lander.

Guiding Principles for the Next Decades – MEPAG Goals I to IV:

- Goal I: Determine if life ever arose on Mars
- Goal II: Determine climate on Mars
- Goal III: Determine evolution of the surface and interior of Mars (Geology)
- Goal IV: Prepare for Human Exploration

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Proposed Mars Program for the Next Decade

Timeline from 2009 to 2020 showing Mars Science Lander, Mars Sample Return, and Mars Human Exploration.

Science & Testbed Programs:

Science examples: APL rover, Deep drill, McLander, MSR
Testbed examples: Pingpong landing, Increased landed mass, Subsurface access, Fusion reactor on surface

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