

Noninvasive Geophysical Probing System (NGPS) for Ground Subsurface Exploration and Mapping

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Objectives

- u Develop a miniature NGPS for noninvasive geophysical exploration and

Background

- u JPL & UTEP developed technologies of noninvasive characterization of layered

NGPS technology

- u NGPS represents a technology that has evolved as a viable terrestrial tool for ground surface analysis and it offers unique geophysical information extraction capabilities.

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Instrument concept

Basic Elements of NGPS

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Spectral Analysis of Surface Waves (SASW)

Two system configurations

Portable Surface Wave Analyzer

- u Allow testing the integrity of concrete members and slabs < 12-inch deep.
- u Data acquisition and data reduction is done in less than 15 seconds.

View of the transmitter

Potential opportunities for NGPS

- Use a portable transmitter and integrate a receiver on a rover terrestrial tests in an upcoming experiment in the desert.
- Develop NGPS as a remote sensing system for the Mars '01 mission.
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