

National Aeronautics and
Space Administration



EXPLORE SOLAR SYSTEM & BEYOND

Planetary Science SmallSat Opportunities

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2021 NASA Small Spacecraft Forum

March 25, 2021

NASA Virtual Town Hall

A collage of celestial bodies against a black background. At the top left is a large, reddish-orange sphere representing Mars. Below it and to the right is a large, grey, cratered sphere representing the Moon. To the left of the Moon is a smaller, grey, cratered sphere representing an asteroid. At the bottom left is a large, bright yellow-orange sphere representing Venus.

Small Innovative Missions for Planetary Exploration (SIMPLEx)

SIMPLEx-1 Solicitation Requirements (2014)

- Rideshare missions to conduct planetary science
- Mass/Cost Caps: 6U / \$5.6M
- Launch opportunities found after selection

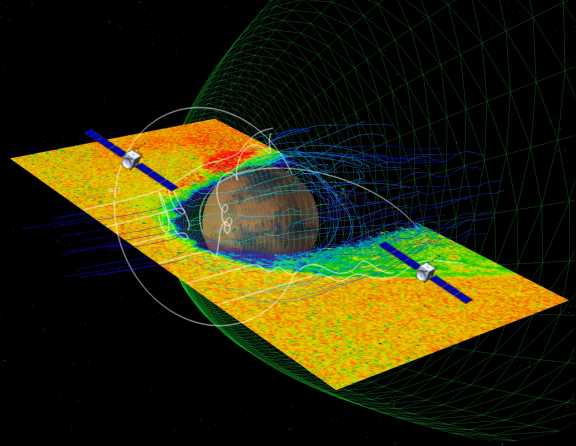
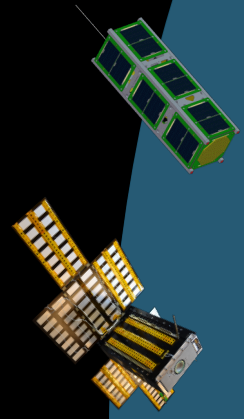
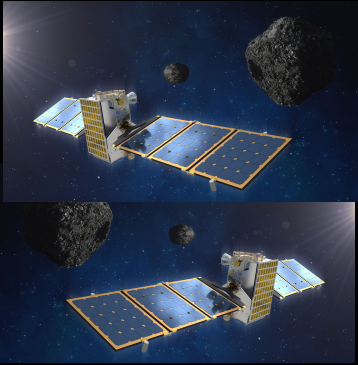
SIMPLEx-2 Solicitation Requirements (2018)

- Rideshare missions to conduct planetary science
- Mass/Cost Caps: 180 kg / \$55M
- Specific launch opportunities offered

Next SIMPLEx is TBD

- Current budget precludes near-term SIMPLEx call
- Lessons being learned from SIMPLEx-2
- Awaiting Decadal recommendations
- Planetary Science is committed to providing ride-share opportunities, as possible, on future launches

Small Innovative Missions for Planetary Exploration (SIMPLEx)



SIMPLEx-1 (2014)

Q-PACE

Josh Colwell, University of Southern Florida
Virgin Orbit LauncherOne, January 17, 2021
500 km circular Earth orbit

LunaH-Map

Craig Hardgrove, Arizona State University
Artemis 1, delivery May 14, 2021
Highly elliptical lunar polar orbit

SIMPLEx-2 (2018)

Janus

Dan Scheeres, University of Colorado Boulder
Psyche, August 2022
Flybys of asteroid 1996 FG3 and 1991 VH

Lunar Trailblazer

Bethany Ehlmann, Caltech
IMAP, FY25
100 km lunar orbit

Escapade

Rob Lillis, University of California Berkeley
Various Mars orbits (2 spacecraft)



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