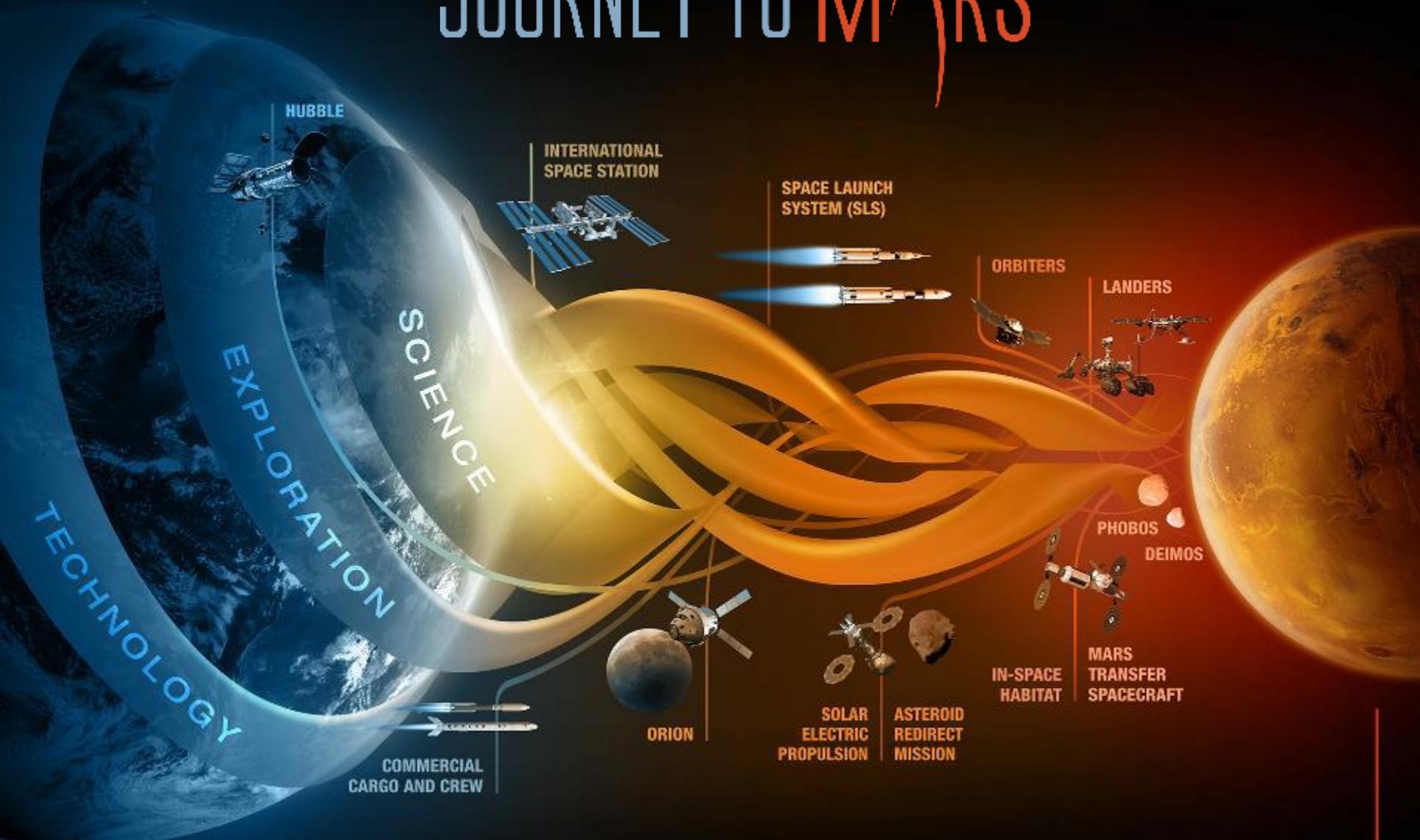


# JOURNEY TO MARS



MISSIONS: 6-12 MONTHS  
RETURN: HOURS

EARTH RELIANT

MISSIONS: 1 TO 12 MONTHS  
RETURN: DAYS

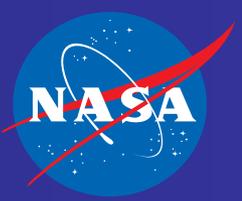
PROVING GROUND

MISSIONS: 2 TO 3 YEARS  
RETURN: MONTHS

EARTH INDEPENDENT



# The Human Research Program



## A Risk Reduction Strategy for Human Space Exploration



The Human Research Program (HRP) investigates and mitigates the highest risks to human health and performance, providing essential countermeasures and technologies for human space exploration. Risks include physiological effects from radiation, hypogravity, and terrestrial environments, as well as unique challenges in medical support, human factors, and behavioral health support.

<http://humanresearchroadmap.nasa.gov/>

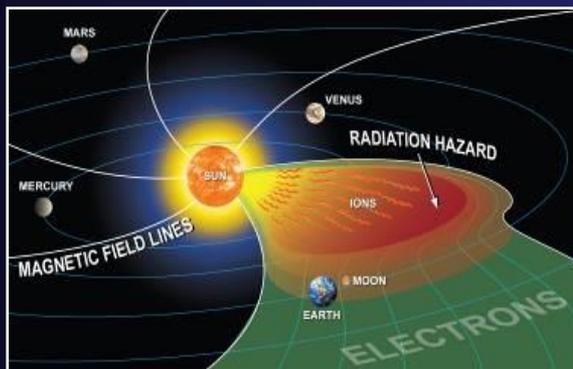


# NASA Space Radiation Program Research Priorities



Space Radiation Program Element

- *Risk of Radiation Carcinogenesis from Space Radiation Exposure*
- *Risk of Acute or Late Central Nervous System Effects from Space Radiation – inflight cognitive or behavioral changes that impact mission success, and late neurological disorders*
- *Risk of Cardiovascular Disease and other Degenerative Tissue Risks from Space Radiation*
- *Acute Radiation Risks from Solar Particle Event Exposure – prodromal risks, immune system dysfunction and skin injury that jeopardize crew health and mission success*





# NASA Space Radiation Research



Space Radiation Program Element

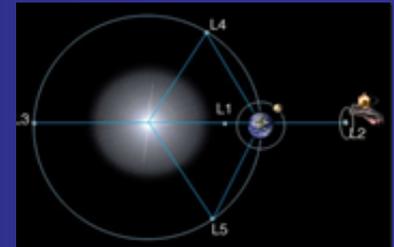
Human Research Roadmap

<http://humanresearchroadmap.nasa.gov/>



Space Radiation Program Funding Opportunities

<http://spaceradiation.jsc.nasa.gov/funding/>



Information on Space Radiation Health Risks

<http://three.jsc.nasa.gov/>



2016 NASA Space Radiation Summer School

<http://spaceradiation.jsc.nasa.gov/nsrss/>

