

Promotion of planetary geodesy in Martian Moons eXploration mission (**MMX**) and Jupiter Icy Moons Explorer (**JUICE**) mission

RISE Project

@ NAOJ Future Symposium

2023 November 8

8. Scientific Objectives

MMX

RISE Project leads MMX Geodesy Science Strategy Team (GSST), contributing to science observation and spacecraft orbit determination in the proximity of Phobos, as well as pipeline data process and analysis.

Hayabusa2#

RISE Project has been and will be contributing the Hayabusa2 project .

JUICE/GALA

We contribute to elucidating the origin and evolution of planetary systems and promoting an understanding of the development of habitable environments in the JUICE mission of the European Space Agency.

History of Life

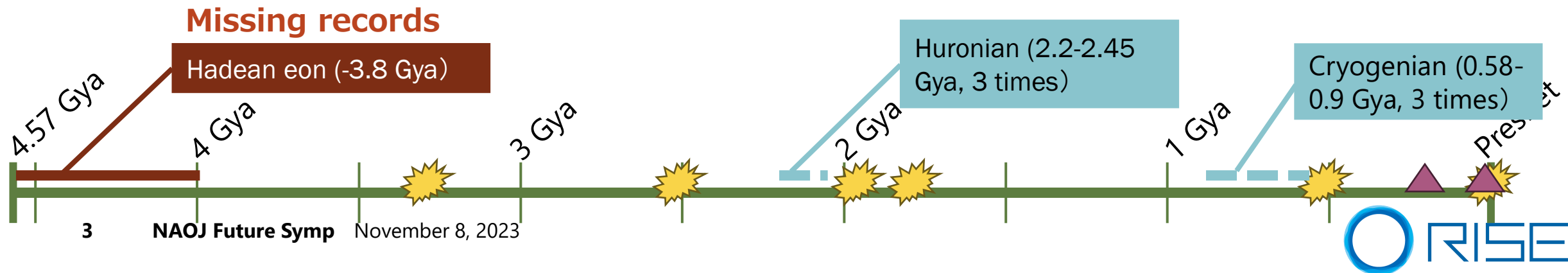
of particular type on one planet

Glaciation:
Snowball Earth

Huge Impacts

Massive Volcanic
Eruptions

Importance of sustainable
habitable environment



5-6. Timetable

Fiscal Year	2023 R5	2024 R6	2025 R7	2026 R8	2027 R9	2028 R10	2029 R11	2030 R12	2031 R13	2032 R14	2033 R15	2034 R16	2035 R17
MMX		Launch ▲	Arrv. Mars ▲			Dept. Mars ▲	Rtrn. Earth ▲						
GSST * LSS: Landing Site Selection	LSS drill, simulation reserach for internal structure exploration, system integration test	Launch site test, simulation reserach for internal structure exploration	Preparation and drill for science operation, initial checkout after arrival, observation and pipeline processing	Observation in the proximity of Phobos + LSS. Hayabusa2# flybies CC21. ▲	Landing operation, 3D-QSO operation	* QSO: Quasi-Satellite Orbit			Hayabusa2# arrives KY26. ▲				
JUICE	Launch ▲								Arrv. Jupiter ▲	Europa, Ganymede, Calisto flyby		Gany Ins. ▲	End Mission ▲
Science promotion													
Small Bodies		Studies of Ryugu and Hayabusa2# targets				Data analysis and science production				Haya2# science			
Moons & Planets		Studies of interior of the Moon, Mercury, and icy satellites									Data analysis and science production		

FROM: RISE Project TO: NAOJ/Community

13. Efficient personnel change within/out of NAOJ is crucial.

Any project must terminate sooner or later. Then what happens to project members? Unless DoS or other projects can afford to absorb these members, they would be lost between old and new projects. A good use of human resources, either within or out of NAOJ, shall be considered in discussing the long-term roadmap by NAOJ and the community.