

2-3(a) PP activity for return request [status of regolith contamination and probability analyses]



The following opportunities exist for regolith to adhere to the MMX spacecraft. The pattern of regolith that will be scattered in each case has been predicted, and shields have been installed to prevent regolith from scattering onto the spacecraft as necessary.

- Scattering from the landing gear pads during landing
- Scattering due to thruster firing during takeoff
- Scattering due to corer digging by C-SMP
- Scattering due to gas injection by P-SMP

Since the MMX spacecraft's exploration module, which will come into direct contact with the surface upon landing on Phobos, will be separated before returning to Earth, only the amount of regolith that adheres to the return module needs to be evaluated for planetary protection.

Experiments will also be conducted to verify the difference in adhesion effects depending on the spacecraft surface material.

