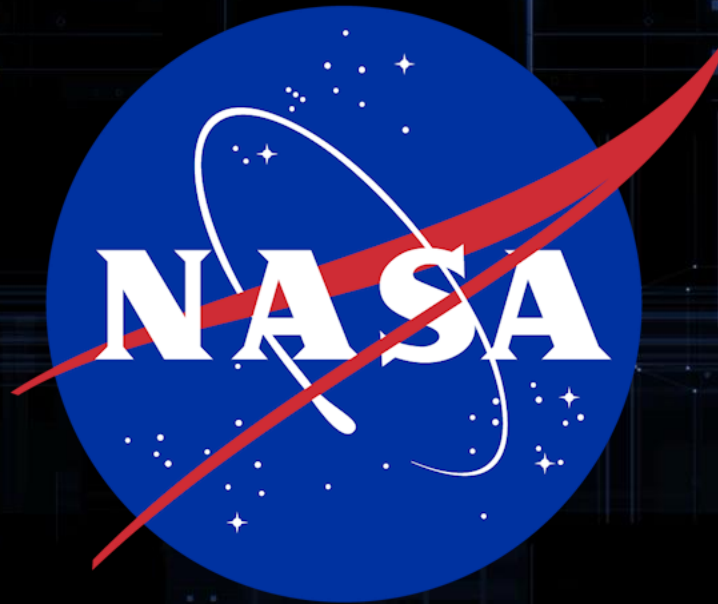


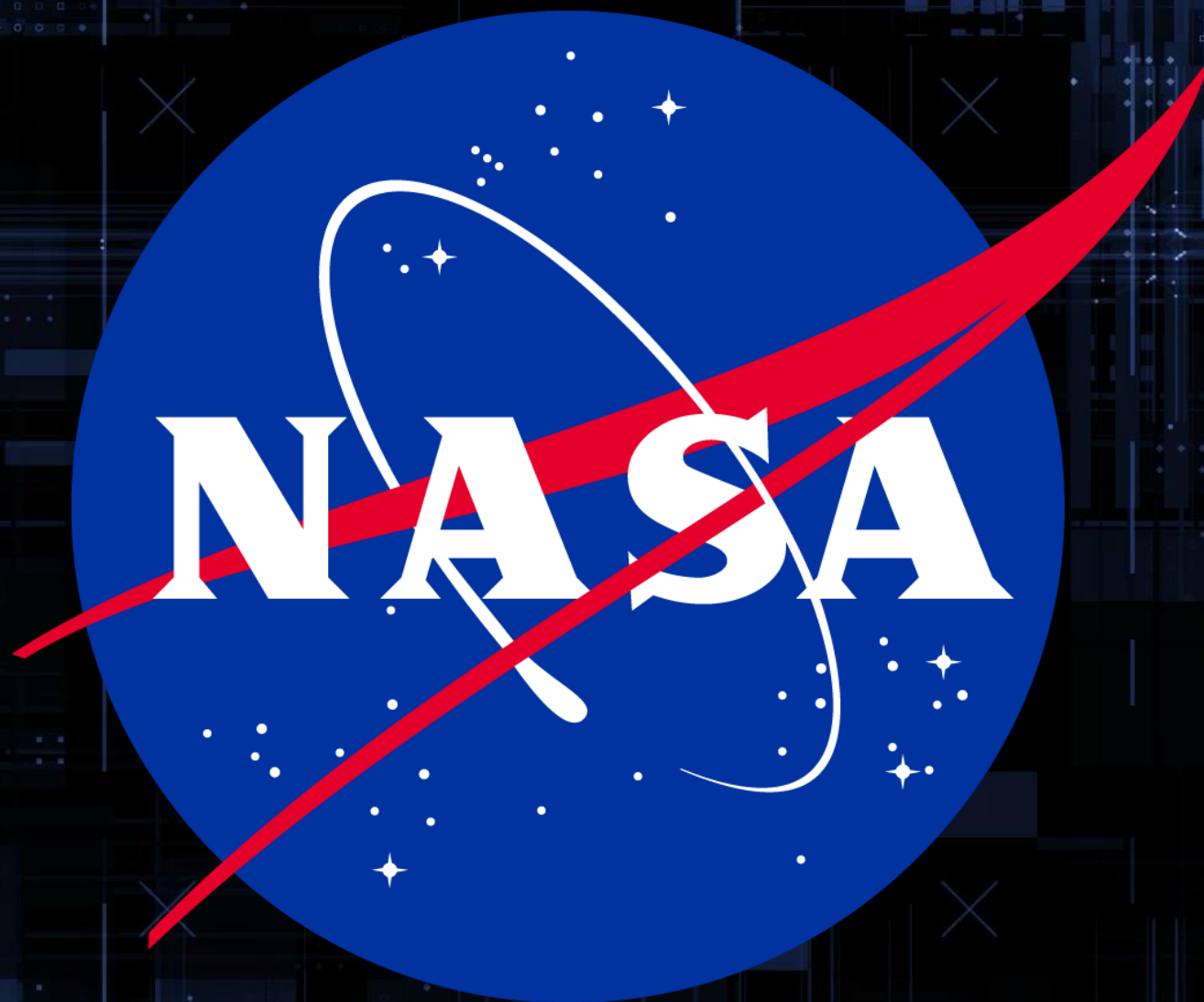


TALKS

WHERE NASA COMES TO TALK TECH

HARSH LUNAR ENVIRONMENTS

STEPHANIE SIPILA





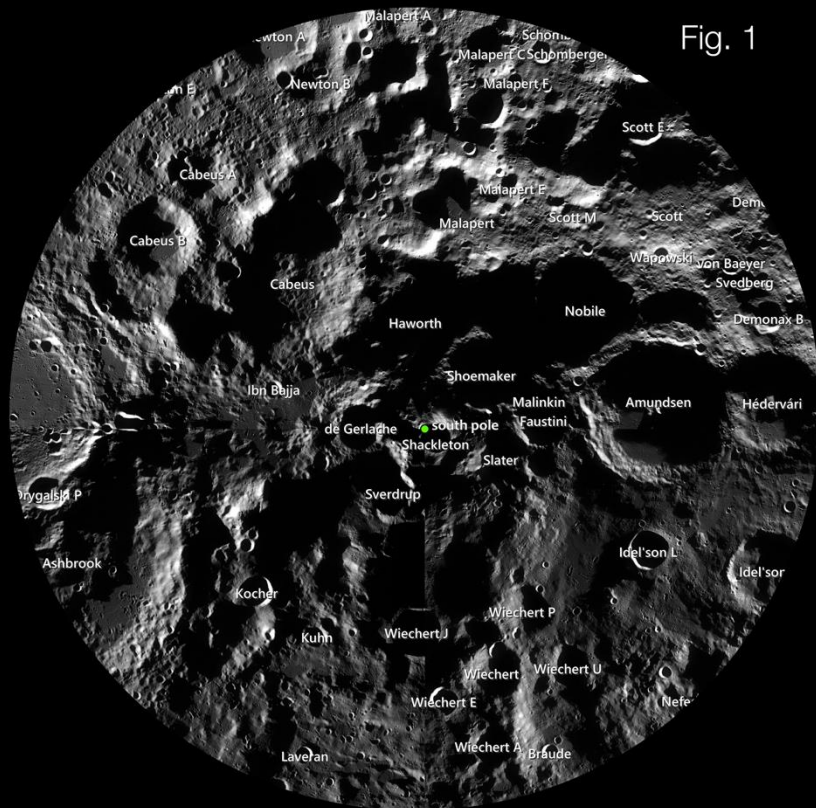


Fig. 1

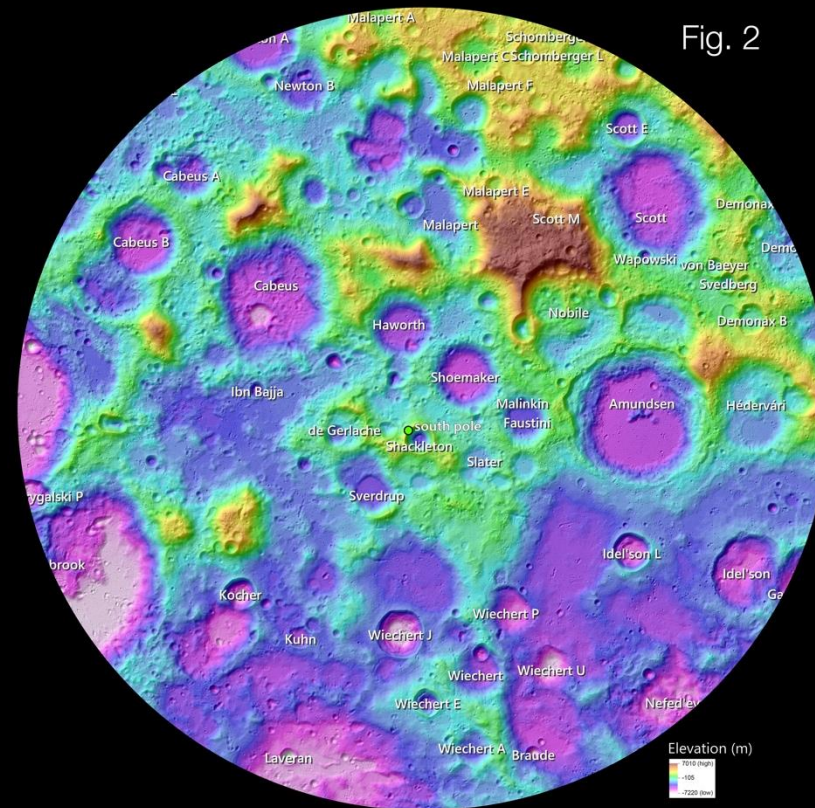
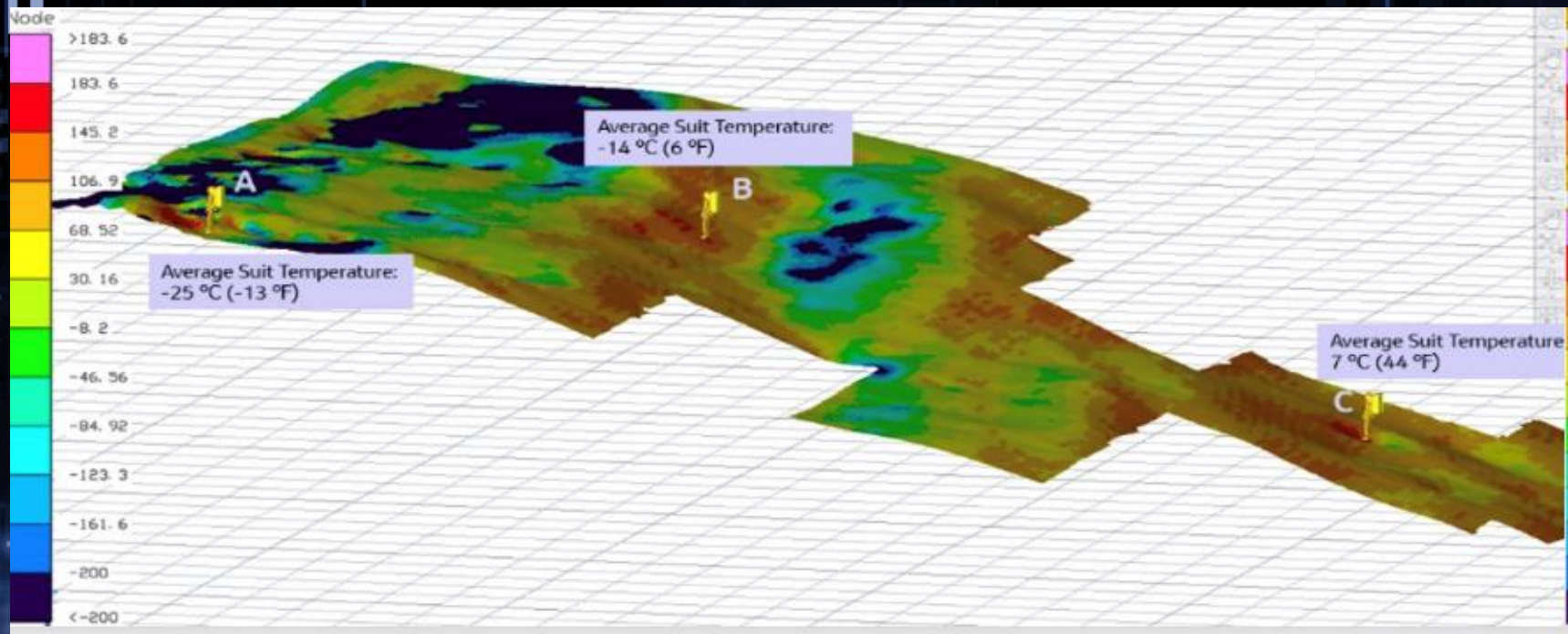
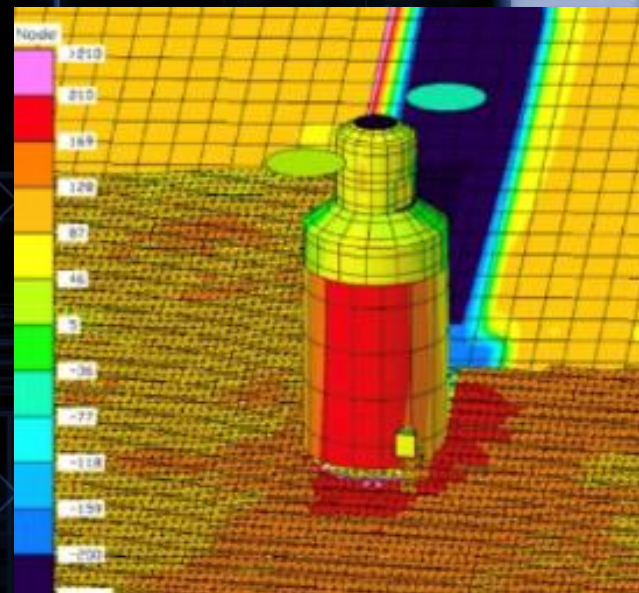
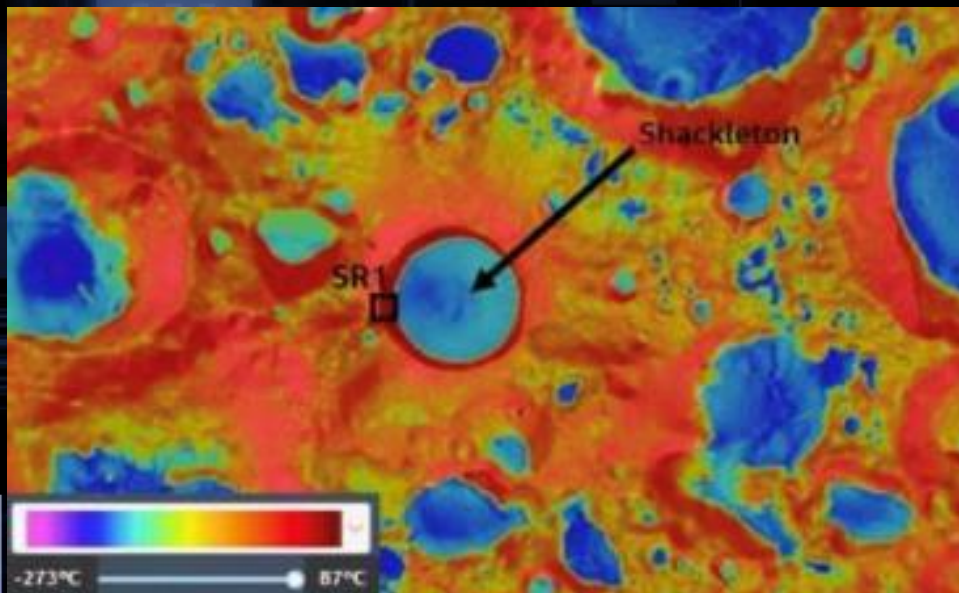


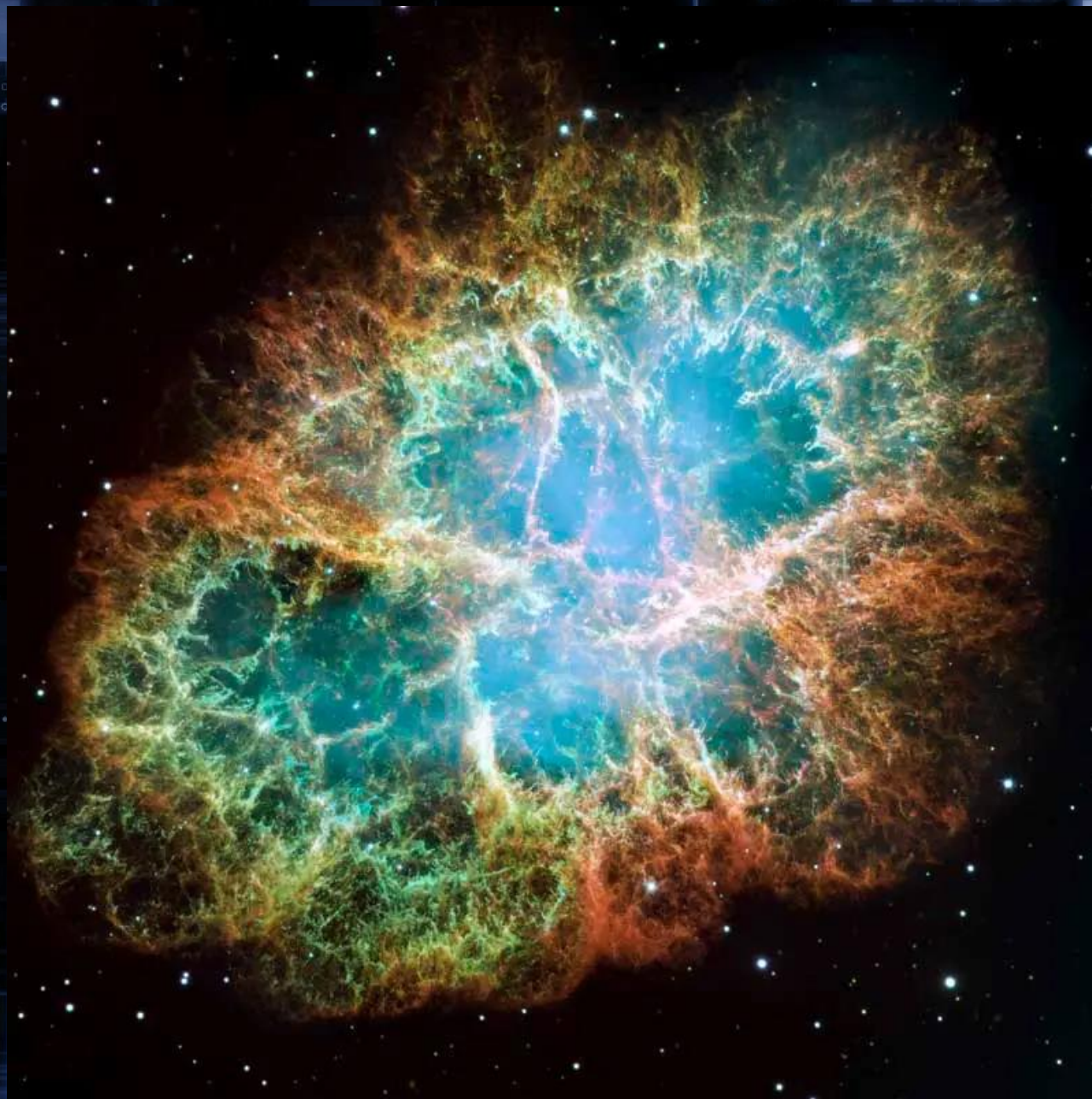
Fig. 2

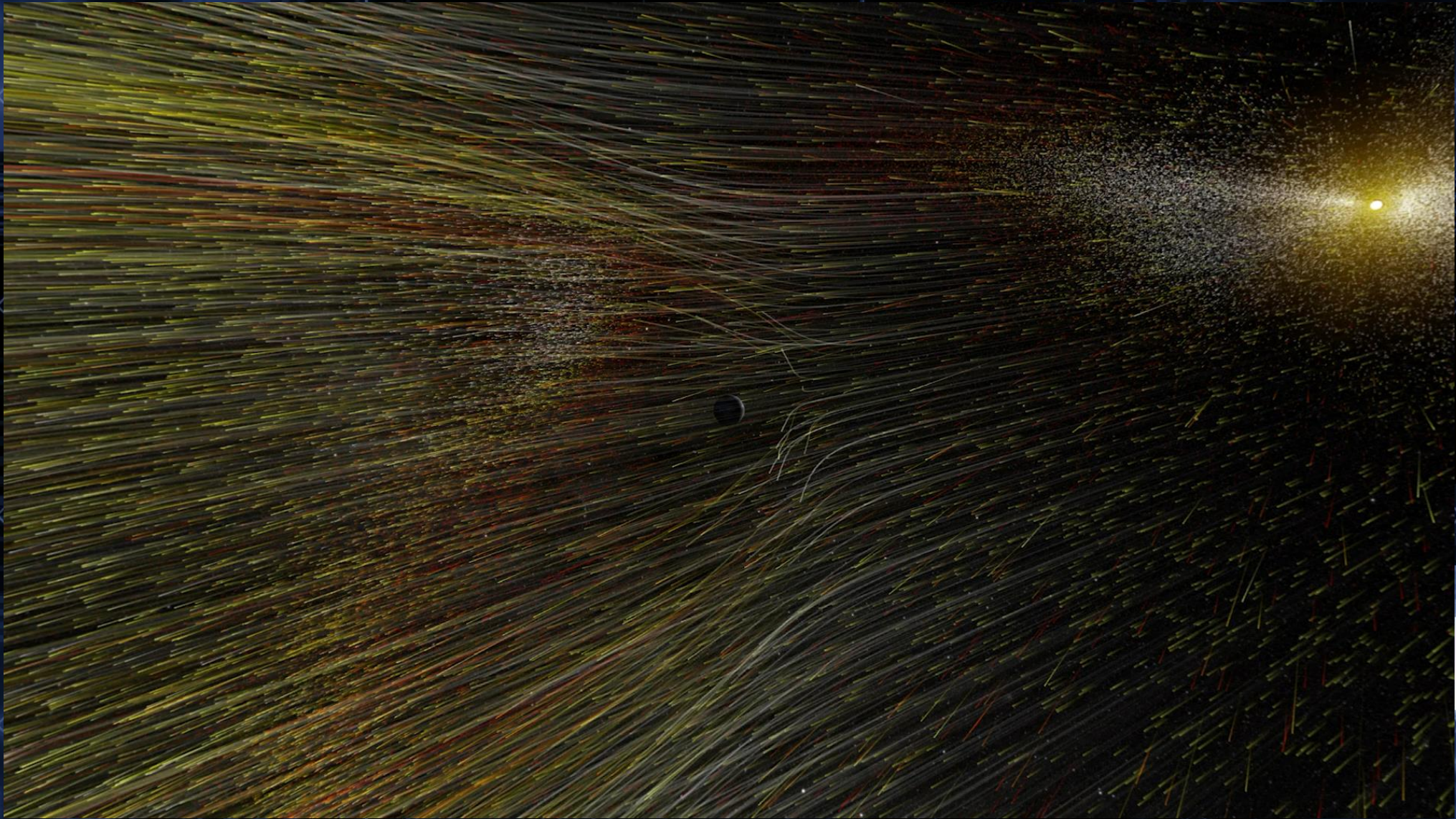


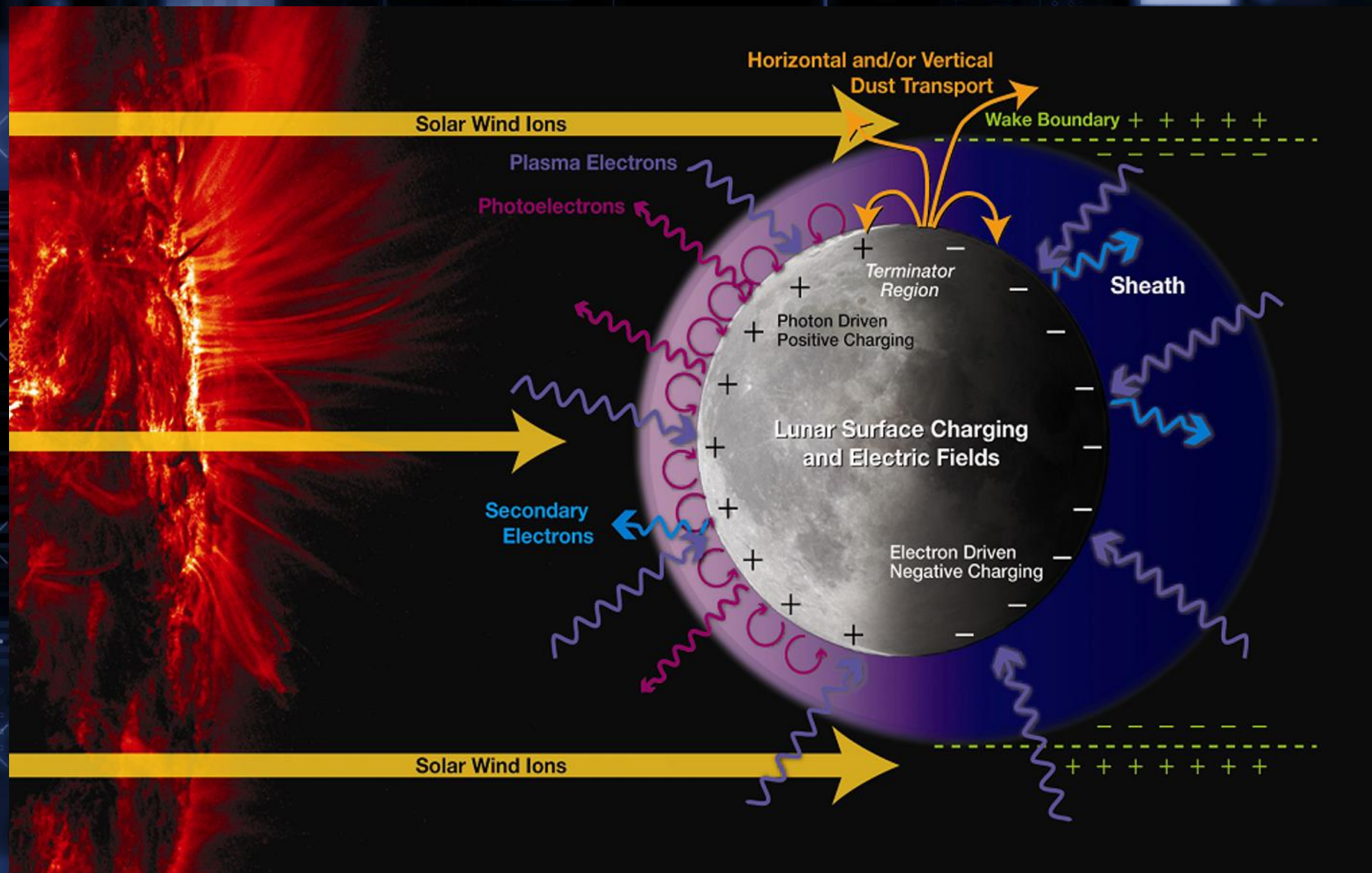


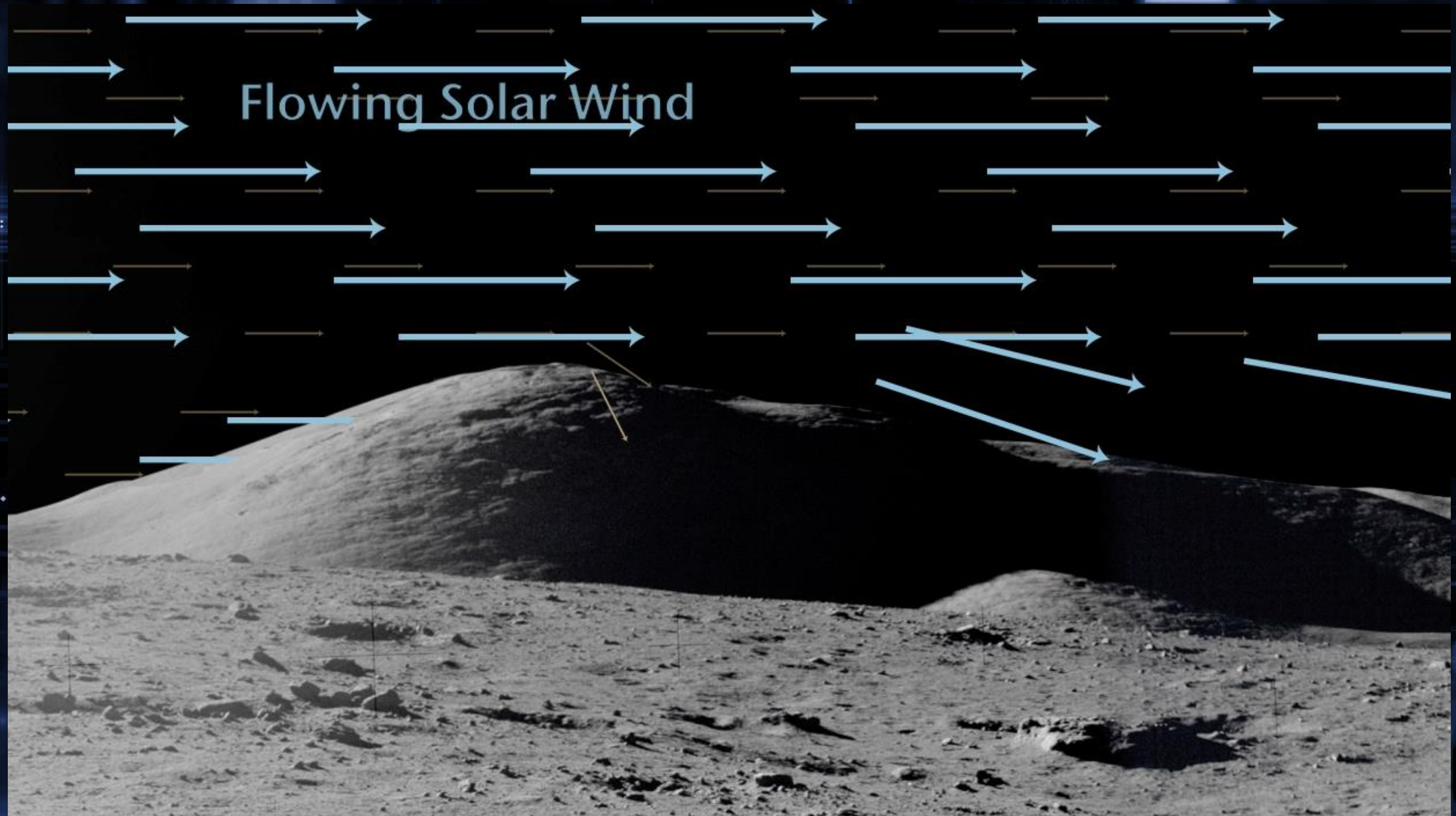




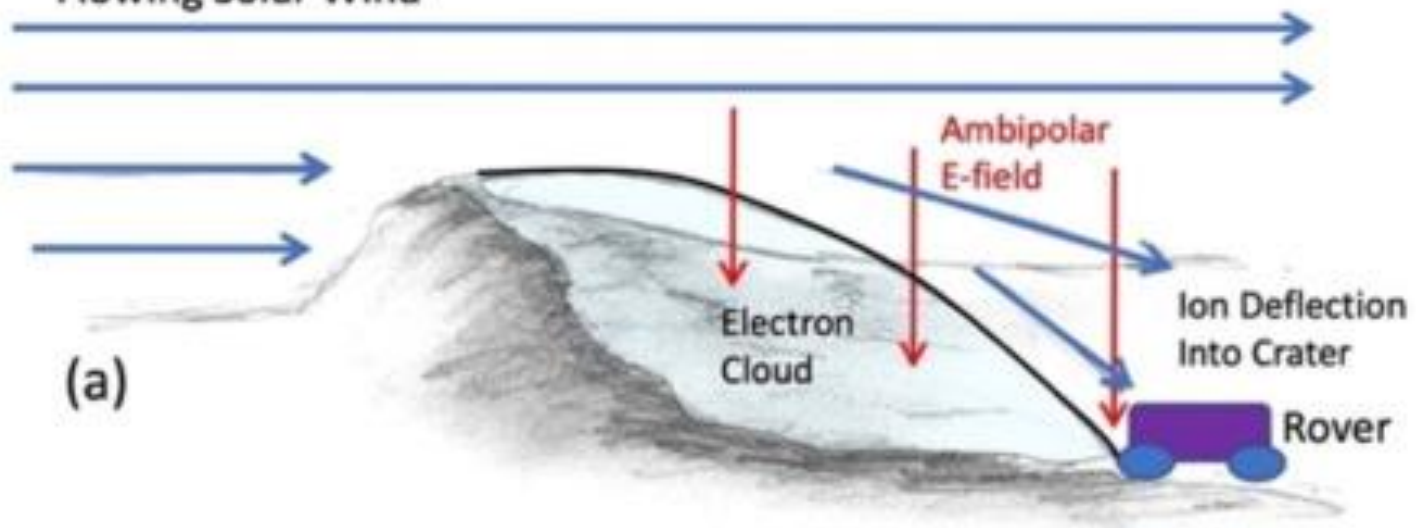




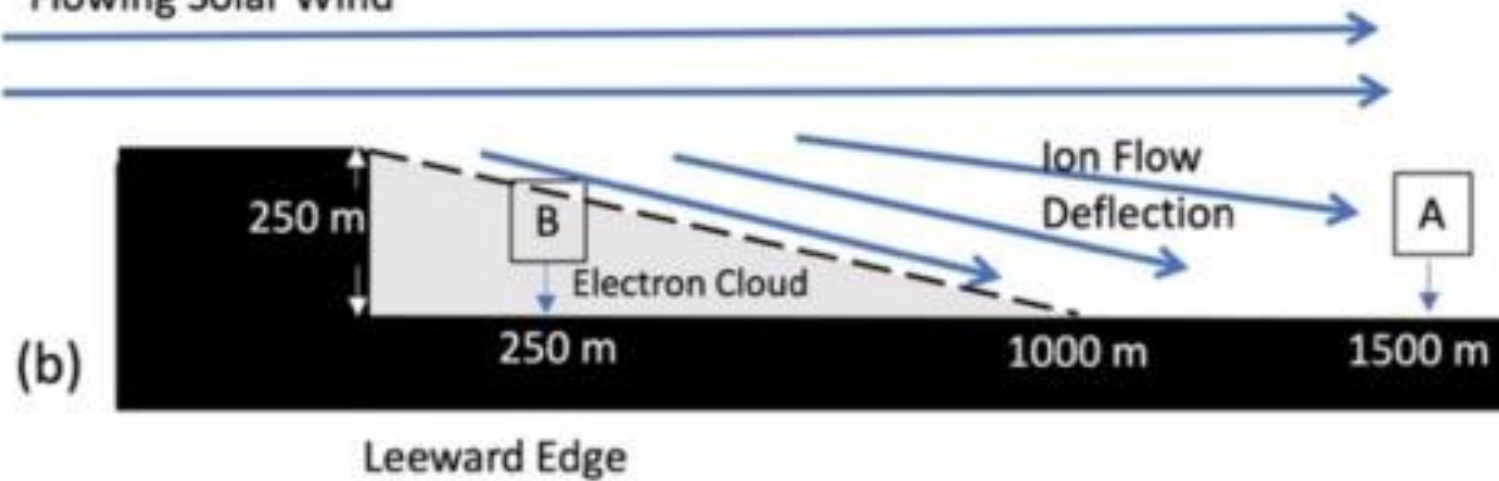


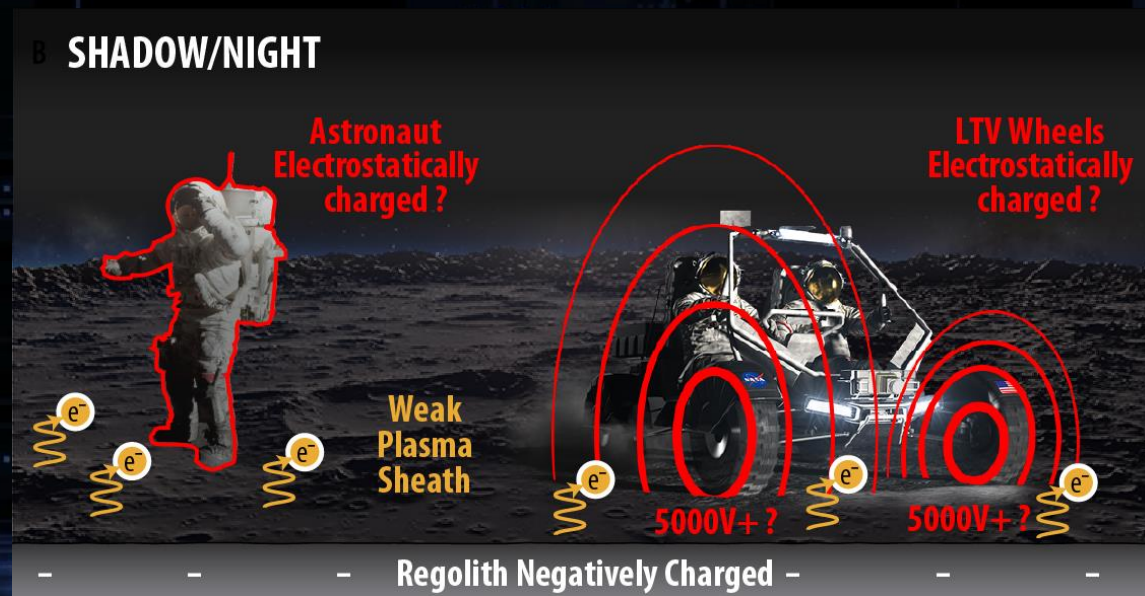
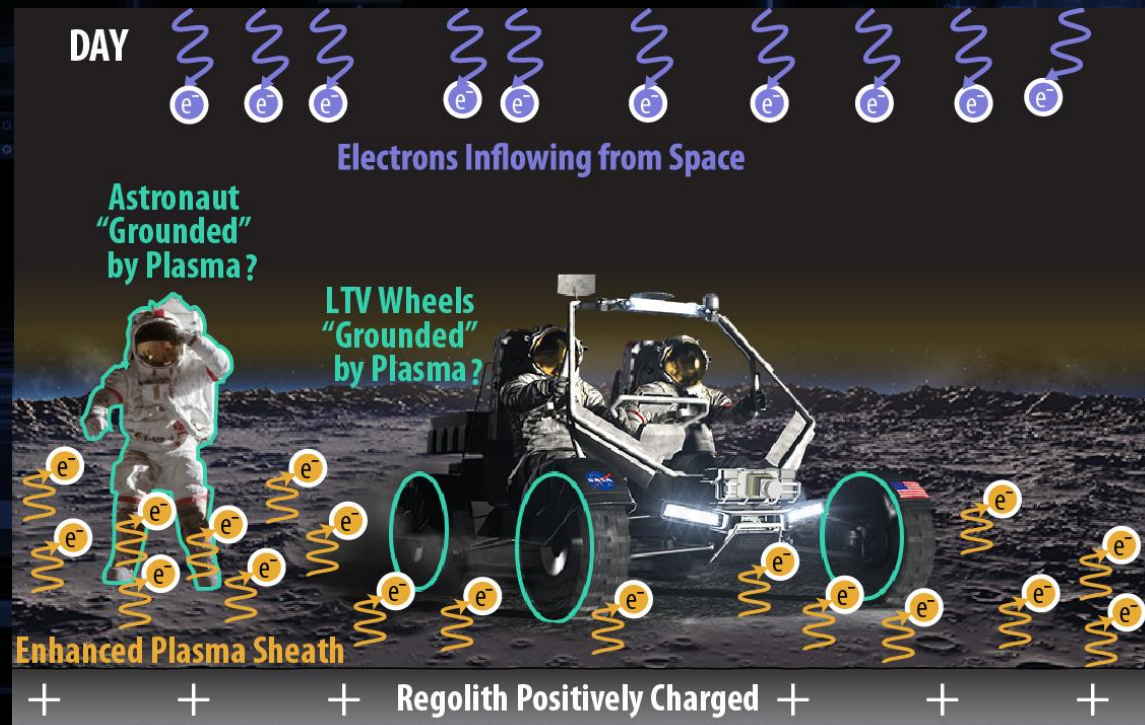


Flowing Solar Wind



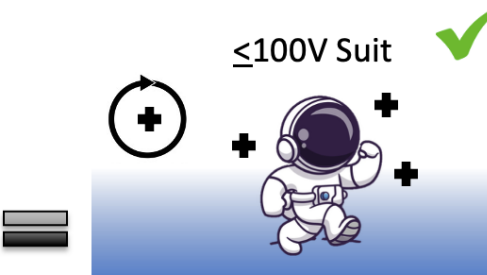
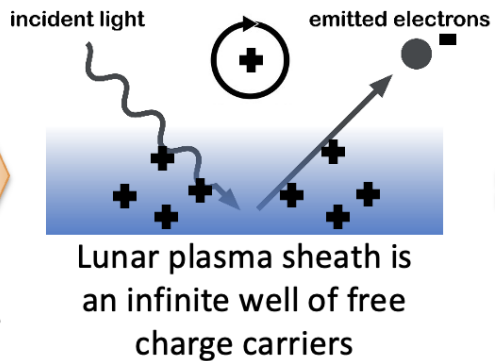
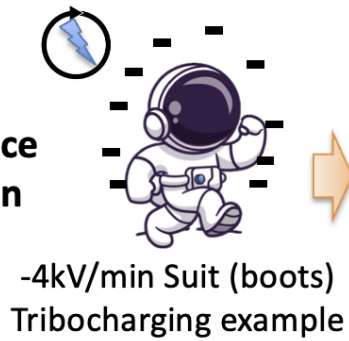
Flowing Solar Wind



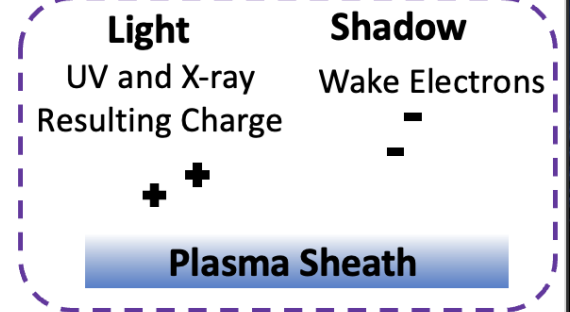


Plasma = Solar Wind Electrons, Solar Wind Ions and Photoelectrons

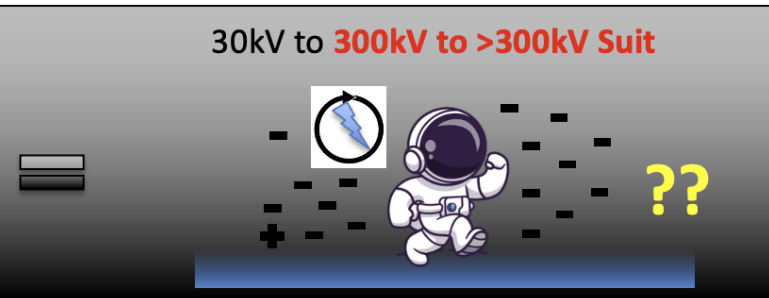
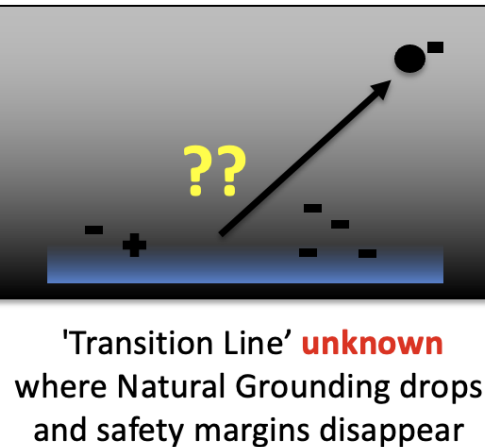
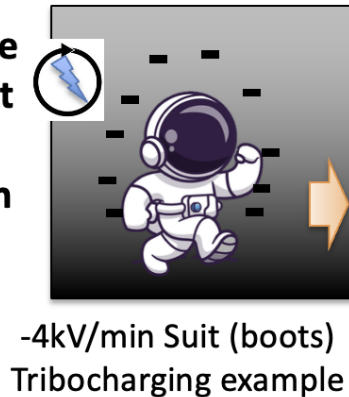
EVA on Surface
Sunlit Region



Natural Grounding: Lunar sheath plasma (+) flows to EVA suit, neutralizing excess Tribocharge (-), reducing potentials to **safe levels**



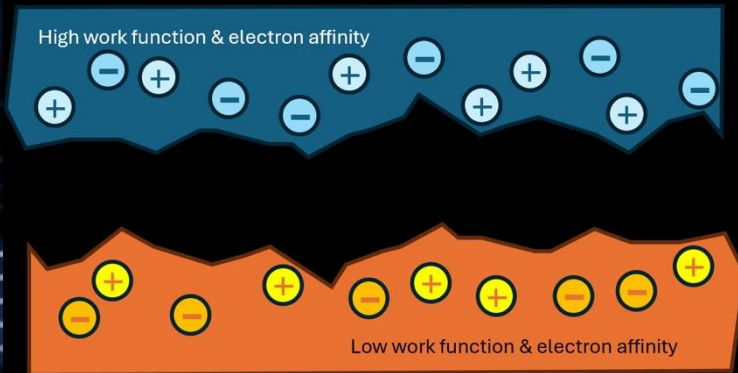
EVA on Surface
Shadow/Night
Region and
behind terrain
features



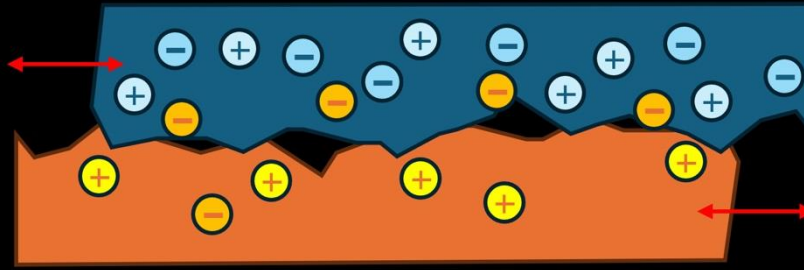
Loss of electrical ground. Weak ambient plasma insufficient to neutralize excess Tribocharge, potentially creating **high charge on the EVA suit**

1

High work function & electron affinity



2



3

Material now has a **negative** potential