

**Figure LE1:** (top panel) CRaTER will measure the lunar radiation environment during the peak and declining phase of Solar Cycle 25. Each solar cycle is different and unpredictable with the Sun's magnetic field switching polarity between even and odd cycles, which effects the radiation environment at the Moon from both GCRs and SEPs. (bottom panel) The radiation environment measured by CRaTER in orbit can be mapped to the lunar surface using LOLA DEMs. Shown is a map of the predicted 30-day dose from GCRs to a space suited astronaut around the lunar South Pole. Black squares mark the original Artemis III candidate landing sites.