

Rationale and robotic payload for a lunar polar lander

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We present the results of a study for a lunar polar lander conducted at ESA CDF Concurrent Design Facility until December 2005. The goal is to demonstrate lunar landing, survival and exploration technologies for the future, geochemical studies of the poles, and search for ice in permanent shadows. We describe the top objectives, mission analysis, design and associated lander and rover. We also describe the possible payload complement in discussion with the community. The robotic payload includes a nanorover, a regional rover with robotic arm and drilling capability. The sensors include cameras, spectrometers and analysis facilities.