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MaQuls - Mars Quantum Gravity Mission

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With MaQuls we propose a mission to investigate the gravitational field of Mars. Observing the gravitational field over time yields information about the planets tectonic lithosphere, mass distribution, and composition. Consequently, this mission allows to study static and dynamic processes on and under the surface of Mars, including phenomena such as melting cycles and tectonic activity.

MaQuls will deploy quantum mechanical means to measure Mars gravitational field with the highest precision yet. In addition, the nature of the proposed instrumentation achieves high sensitivities without needing more complex satellite constellations. As such, MaQuls follows successful missions for the Earth and Moon, extending the technology to Mars.

In this presentation we will outline the expected scientific merit and explain the underlying technology and planned configuration of the mission.