

## Vulcano Workshop 2014 - Frontier Objects in Astrophysics and Particle Physics



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### Fundamental Physics in the ESA Program

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Atomic clocks and high-performance links, classical accelerometers and atom interferometry sensors are today able to measure frequency, time, and distances, as well as to track the motion of massive bodies, quantum particles, and light to accuracy levels never reached before. These instruments achieve their ultimate performance in space, where the clean environment and the free-fall conditions become essential for identifying tiny deformations in space-time that might bring the signature of new physics or new fundamental constituents. This paper will discuss the space-based research presently on-going in ESA in the fundamental physics domain.

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