



BepiColombo ISA accelerometer: ready for launch

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To be launched in 2017, ESA mission BepiColombo will perform a thorough study of the planet Mercury and its environment. Among the wide range of its scientific objectives, an important set is constituted by the so-called Radio Science Experiments (RSE), which will study the gravitational field and rotation of the planet, and will perform very precise tests of general relativity theory. The fulfilment of these scientific objectives will be made possible by a precise orbit determination of the Mercury Planetary Orbiter (MPO), at the same time estimating a number of relevant parameters. In order to reach the required level of accuracy in recovering these parameters, the data coming from the high-sensitivity ISA (Italian Spring Accelerometer) instrument onboard the MPO probe will be used: the first time for a deep-space probe. After a long path of design and development, the instrument is now ready for integration into MPO. Following a brief description of the RSE in the context of the mission, the instrument and its capabilities will be reviewed. Emphasis will be given to the foreseen strategies for its operation in the various phases of the mission, along with the manifold calibration possibilities.