Cruise and flyby operations of BepiColombo – first results and planned activities

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BepiColombo was launched on 20 October 2018 from the European spaceport Kourou in French Guyana and is now on route to Mercury to unveil Mercury’s secrets. BepiColombo with its state of the art and very comprehensive payload will perform measurements to increase our knowledge on the fundamental questions about Mercury’s evolution, composition, interior, magnetosphere, and exosphere. BepiColombo is a joint project between the European Space Agency (ESA) and the Japanese Aerospace Exploration Agency (JAXA) and consists of two orbiters, the Mercury Planetary Orbiter (MPO) and the Mercury Magnetospheric Orbiter (Mio).

On its way BepiColombo will travel 18 times around the Sun until the spacecraft will be put into an polar orbit around Mercury. During its long way through the inner solar system, BepiColombo will perform nine flybys (one at Earth, two at Venus and six at Mercury). However, since the spacecraft is in a stacked configuration during the flybys only some of the instruments on both spacecraft will perform scientific observations. In addition there are plenty of opportunities for further science operations (testing Einstein’s theory during solar conjunctions, listening to gamma ray bursts, or investigation of the solar environment).

A status of the mission and instruments, science operations plans during cruise, and first results of measurements taken in the first three years since launch will be given.