COROT's exoplanet hunt update

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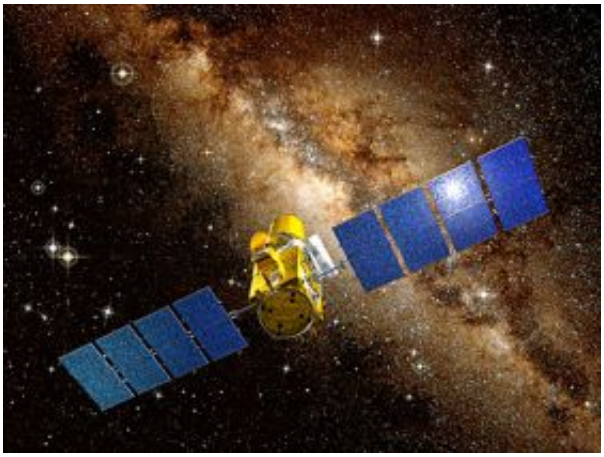

This artist's view shows the COROT satellite, consisting of a 30-centimetre space telescope launched on 27 December 2006. Credits: CNES/D. Ducros

Two new exoplanets and an unknown celestial object are the latest findings of the COROT mission. These discoveries mean that the mission has now found a total of four new exoplanets.

These results were presented this week at the IAU symposium 253 in Massachusetts, USA.

COROT has now been operating for 510 days, and the mission started observations of its sixth star field at the beginning of May this year. During this observation phase, which will last 5 months, the spacecraft will simultaneously observe 12 000 stars.

The two new planets are gas giants of the hot Jupiter type, which orbit very close to their parent star and tend to have extensive atmospheres because heat from the nearby star gives them energy to expand.

In addition, an oddity dubbed 'COROT-exo-3b' has raised particular interest among astronomers. It appears to be something between a brown dwarf, a sub-stellar object without nuclear fusion at its core but with some stellar characteristics, and a planet. Its radius is too small for it to be a super-planet.

If it is a star, it would be among the smallest ever detected. Follow-up observations from the ground have pinned it at 20 Jupiter massses. This makes it twice as dense as the metal Platinum.

Scientists suspect that with the detection of COROT-exo-3b, they might just have discovered the missing link between stars and planets.

COROT has also detected extremely faint signals that, if confirmed, could indicate the existence of another exoplanet, as small as 1.7 times Earth's radius.

This is an encouraging sign in the delicate and difficult search for small, rocky exoplanets that COROT has been designed for.

COROT was launched atop the Soyuz from the Baikonour cosmodrome in Kazakhstan on 27 December 2006. Settled in its almost-circular polar orbit ranging between 895 and 906 km above Earth's surface, the spacecraft was first powered on 2 January 2007 and started its science observations on 3 February of the same year.

Source: ESA