

Embargoed until 12 noon on 31st October 2007

UK planet hunters announce three new finds

The UK's leading team of planet-hunting astronomers, the Wide Angle Search for Planets (WASP), today (31st October 2007), announced the discovery of three new planets. These extra-solar planets were seen to pass in front of, or transit, their host star. Studying such planets outside of our Solar System allows scientists to investigate how planetary systems form. WASP is the first team to detect planets in both the Northern and Southern Hemisphere using this technique.

Dr Coel Hellier, of Keele University, comments "When we see a transit we can deduce the size and mass of the planet and also what it is made of, so we can use these planets to study how solar systems form".

WASP-4 and WASP-5 are the first planets discovered by the WASP project's cameras in South Africa, and were confirmed by a collaboration with Swiss and French astronomers. "These two are now the brightest transiting planets in the Southern hemisphere" said Dr Hellier. WASP-3 is the third planet that the team has found in the North, using the SuperWASP camera sited in the Canary Islands. Dr Don Pollacco, of Queen's University Belfast, said "We are the only team to have found transiting planets in both the Northern and Southern hemispheres; for the first time we have both SuperWASP cameras running, giving complete coverage of the whole sky".

Exoplanet expert Professor Andrew Cameron, of St. Andrews University, comments "All three planets are similar to Jupiter, but are orbiting their stars so closely that their 'year' lasts less than two days. These are among the shortest orbital periods yet discovered". Being so close to their star the surface temperatures of the planets will be more than 2000 degrees Celsius, so it is unlikely that life as we know it could survive there. But the finding of Jupiter-mass planets around other stars supports the idea that there are also many Earth-sized planets waiting to be discovered as astronomers' technology improves.

The WASP project is the most ambitious project in the world designed to discover large planets. Funding for the project comes from the UK Universities and the

Science and Technology Facility Council.

Note: The discovery of WASP-3, WASP-4 and WASP-5 is being announced by the WASP project this week at an international conference on extrasolar planets in Suzhou (near Shanghai), China.

Notes for Editors

Images

Artists impressions of extra solar planets are available. Contact Gill Ormrod in the STFC press office (contact details above).

Transit: A transit occurs when a planet passes in front of its star, blocking some light and causing a small dip in the brightness of the star. The WASP cameras monitor millions of stars, looking for these dips.

Extrasolar planet: a planet around another star, rather than our Sun. Over 200 are currently known to astronomers, but the majority have only periods firmly established and are as massive as Jupiter.

Exoplanet: an abbreviation of “extrasolar planet”

WASP cameras: Arrays of wide-field cameras monitoring millions of stars for transit events. One array of 8 cameras (SuperWASP) is sited in the Northern hemisphere, on La Palma in the Canary Islands, and is operated by Queen's University Belfast. The other array of 8 cameras is sited in the Southern hemisphere in South Africa, and is operated by Keele University. Each camera consists of a 200mm f/1.8 lens backed by a high-specification 2048x2048 CCD chip.

WASP project: The acronym stands for “Wide Angle Search for Planets”, a consortium of UK universities searching for transiting exoplanets.

WASP-3, WASP-4, WASP-5. The names given to planets discovered by the WASP project. WASP-1 and WASP-2 were discovered last year.

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The Council has a broad science portfolio including Astronomy, Particle Physics, Particle Astrophysics, Nuclear Physics, Space Science, Synchrotron Radiation, Neutron Sources and High Power Lasers. In addition the Council manages and operates three internationally renowned laboratories:

- The Rutherford Appleton Laboratory, Oxfordshire
- The Daresbury Laboratory, Cheshire
- The UK Astronomy Technology Centre, Edinburgh

The Council gives researchers access to world-class facilities and funds the UK membership of international bodies such as the European Laboratory for Particle Physics (CERN), the Institute Laue Langevin (ILL), European Synchrotron Radiation Facility (ESRF), the European organisation for Astronomical Research in the Southern Hemisphere (ESO) and the European Space Agency (ESA). It also contributes money for the UK telescopes overseas on La Palma, Hawaii, Australia and in Chile, and the MERLIN/VLBI National Facility, which includes the Lovell Telescope at Jodrell Bank Observatory.

The Council distributes public money from the Government to support scientific research. Between 2007 and 2008 we will invest £678 million.

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