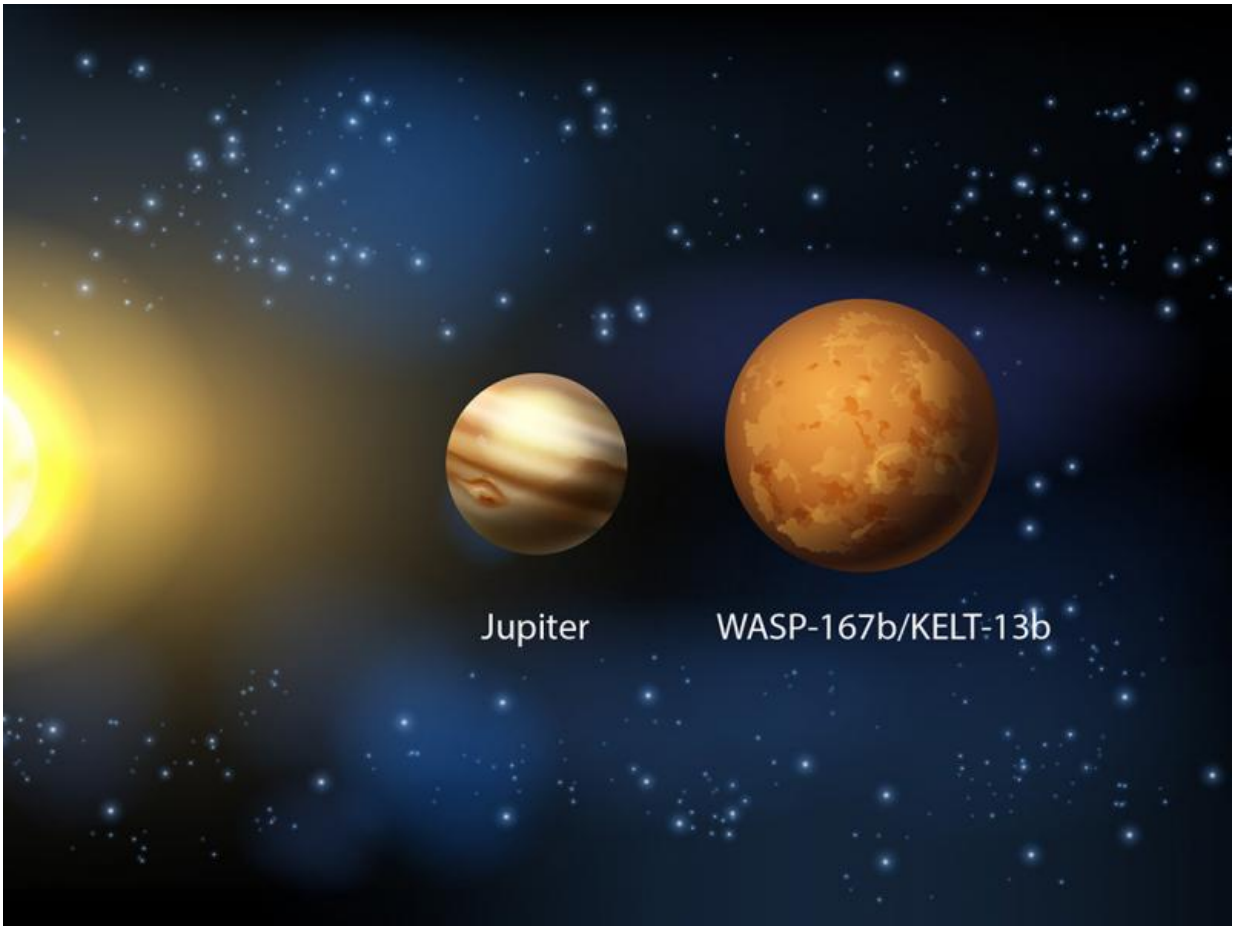
New Hot Jupiter marks the first collaborative exoplanet discovery

July 18 2017



Credit: Keele University

Researchers led by a team at Keele University have discovered a new

'Hot Jupiter' exoplanet. The new giant planet was jointly discovered by a WASP/KELT survey collaboration, marking the first time an exoplanet has been discovered between two planet search groups.

The exoplanet, WASP-167b/KELT-13b, is several times more massive than Jupiter and orbits its parent star every two days. Its host star, WASP-176/KELT-13, is one of the hottest and most rapidly rotating stars known to host such a planet.

The Wide Angle Search for Planets (WASP) and the Kilodegree Extremely Little Telescope (KELT) exoplanet surveys observed the host star between 2006 and 2013 using the WASP-South telescope and the KELT-South telescope at the South African Astronomical Observatory (SAAO). A follow-up observation in 2016 at the European South Observatory (ESO) confirmed the presence of the exoplanet.

The astronomy teams were led by Lorna Temple, Astrophysics Researcher at Keele University, who explained:

"Planet-search teams are only just beginning to find hot-Jupiter planets with hot, fast-rotating host stars. This is only the second of what I hope will be many WASP planets that fall into this category. Already we are seeing characteristic properties that contrast those we've seen before, and I'm looking forward to filling in this emerging big picture with more new discoveries."

Lorna continued:

"This is the first planet discovery where two teams have collaborated, pooling all of the data to produce the best possible characterization of the system."

More information: WASP-167b/KELT-13b: Joint discovery of a hot

Jupiter transiting a rapidly-rotating F1V star. *arXiv*, arxiv.org/abs/1704.07771