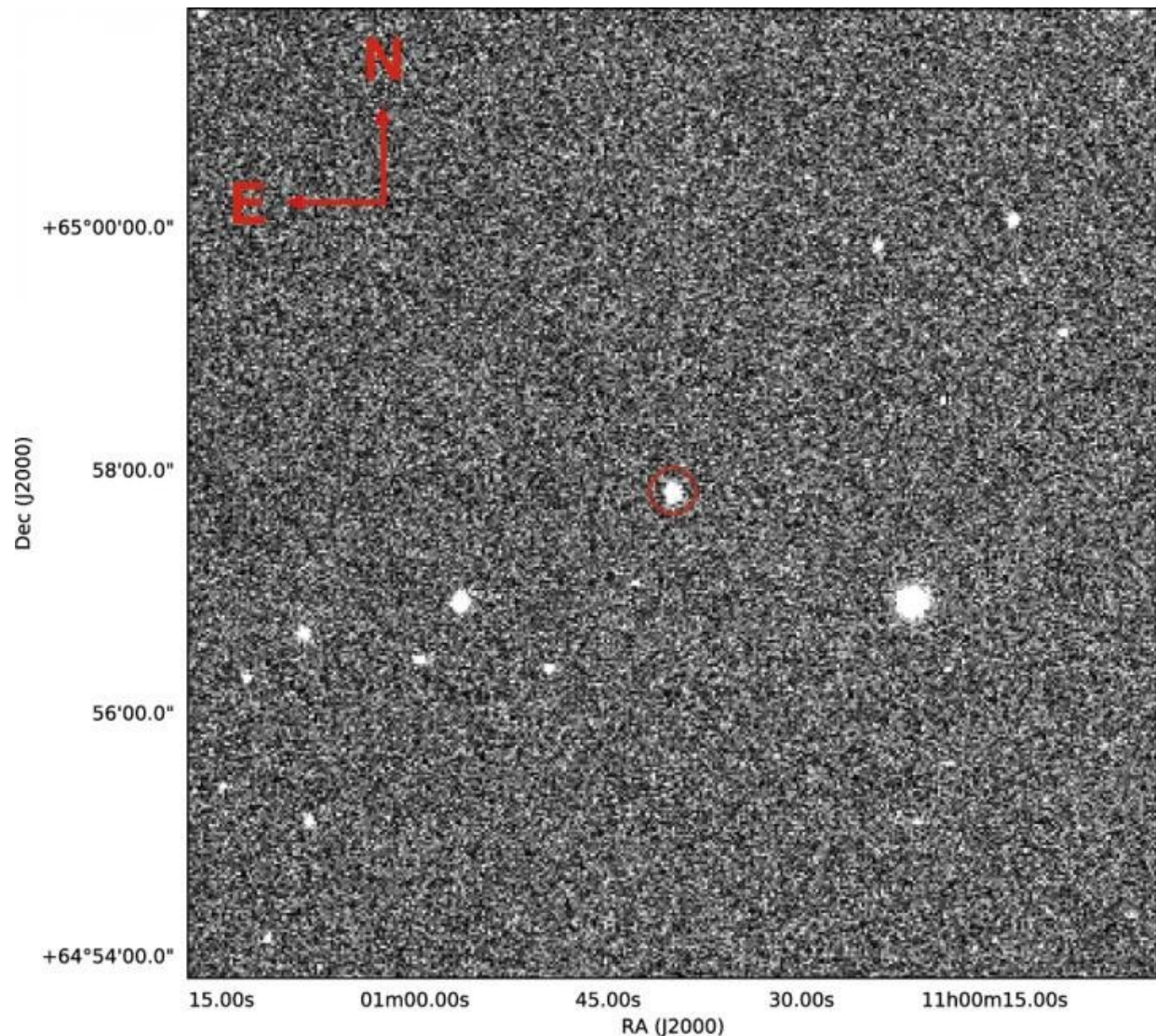


Amateur astronomer's data helps scientists discover a new exoplanet

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Finding chart including KPS-1 host star as obtained with the MTM-500 telescope in V band. Credit: Kourovka Planet Search project

Scientists at Kourovka Astronomical Observatory of Ural Federal University have discovered a new exoplanet.

One of the candidates found by the Kourovka Planet Search (KPS) project turned out to be a so-called hot Jupiter. The exoplanet, known as KPS-1b, orbits a star similar to the sun with a period of 40 hours. The mass and size of the exoplanet KPS-1b are close to the characteristics of Jupiter, but it is located very close to its parent star. Due to this proximity, the temperature of the atmosphere on KPS-1b is much higher than that of Jupiter.

Software for analyzing data and searching exoplanet candidates was developed in UrFU. Subsequent observations of exoplanet candidates were conducted in a number of observatories around the world including the Special Astrophysical Observatory of the Russian Academy of Sciences. Spectral observations, which allowed calculating the mass of the exoplanet, were conducted at Haute-Provence Observatory (France).

According to the researchers, the current discovery is unique due to the fact that signs of the [exoplanet](#) (exoplanetary transits) were found in the data gathered by an amateur astronomer using readily available and relatively affordable equipment. The search for new exoplanets, as well as detailed studies of already known [extrasolar planets](#), allow scientists to come closer to understanding how our solar system was formed and evolved. The discovery was made in collaboration with astronomers from Belgium, USA, England, France, the Netherlands, Turkey, Portugal, Lithuania, Italy and Canada.

More information: Artem Burdanov et al. KPS-1b: The First Transiting Exoplanet Discovered Using an Amateur Astronomer's Wide-field CCD Data, *Publications of the Astronomical Society of the Pacific*

(2018). [DOI: 10.1088/1538-3873/aabde2](https://doi.org/10.1088/1538-3873/aabde2)

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