Dutch astronomers have found clear evidence that a faraway exoplanet is falling apart. New analysis of data from NASA's Kepler satellite shows that this exoplanet, which orbits its host star every 16 hours, has a massive dust tail originating from its surface, similar to a comet's tail. The study will be published in the journal *Astronomy & Astrophysics*.

"The exoplanet is very close to its central star", explains Matteo Brogi (Leiden University), lead author of the study. "Because it is so close, the surface of this exoplanet is very hot, about 2000 degrees Kelvin. This leads to very strong internal motions in the planet, which in turn leads to massive volcanism and erupting ash clouds. Some of this dust escapes into space where the intense stellar radiation quickly evaporates it. The variable amount of dust leads to the observed variability in the star's dimming."  Christoph Keller (Leiden University), co-author of the publication adds: "By observing the dust clouds in different colors, something Kepler cannot do, we will be able to determine the amount and the composition of the dust and estimate its lifetime. As the evaporation peels the planet like an onion, we can now see what used to be the inside of a planet".


Provided by Leiden University