

Energetic neutral atoms around the extrasolar planet HD 209458b

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Observed atomic hydrogen absorption in the stellar Lyman α line by the planet HD 209458b shows hydrogen with high velocity at great distances from the planet. This has been interpreted as hydrogen atoms undergoing hydrodynamic escape. We estimate the production of energetic neutral atoms from the interaction of the stellar wind with the extrasolar planet HD 209458b, and the implications for observations of atomic hydrogen. The estimated production of hydrogen-energetic neutral atoms is compared with observations.