



Saturated water vapor in the GJ 1214b atmosphere

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A low average density of the exoplanet GJ 1214b is presumably interpreted as presence of a deep global ocean and H₂-He atmosphere (which authors have estimated as low as 0.05% of the exoplanet mass). The estimation of the equilibrium temperature of the exoplanet at any probable Bond albedo value, from 0.10 up to 0.75, results inevitably in high pressures of saturated water vapor at water surface, 2 bar when $A_b = 0.75$ and 55 bar when $A_b = 0.10$. (Proceeding from available Bond albedo values for exoplanets, low value A_b is more realistic). The pressure in such an atmosphere is determined, first of all, by a partial pressure of water vapor, not by H₂-He atmosphere. The atmosphere of GJ 1214b is to be saturated by water vapor, with possible other gaseous components. It is worthwhile to look for near IR water vapor bands in GJ 1214b transits.