



Initial investigations of the composition of GJ1214b using a chemical column model

John Lee Grenfell (1), Juan Cabrera (1), Philip von Paris (1,2), Barbara Stracke (1), Mareike Godolt (1), Heike Rauer (1,3)

(1) Institut für Planetenforschung, Deutsches Zentrum für Luft- und Raumfahrt (DLR), Berlin, Germany, (2) Université Bordeaux, Bordeaux, France, (3) Zentrum für Astronomie und Astrophysik (ZAA), Technische Universität Berlin (TUB), Berlin, Germany

We present initial investigations of the chemical composition of hot, Low Mass Low Density planets. Using a recently-developed column model having a straightforward chemistry scheme (incorporating only C, H, O and N species) as a first step which employs gas-phase rate coefficients valid over a wide temperatures range we input planetary properties for GJ1214-b. We then vary the bulk gas from a pure steam (water)-atmosphere to a solar-type (molecular hydrogen and helium dominated) atmosphere and investigate associated compositional changes e.g. in active minor species such as hydrogen- and nitrogen-oxides.