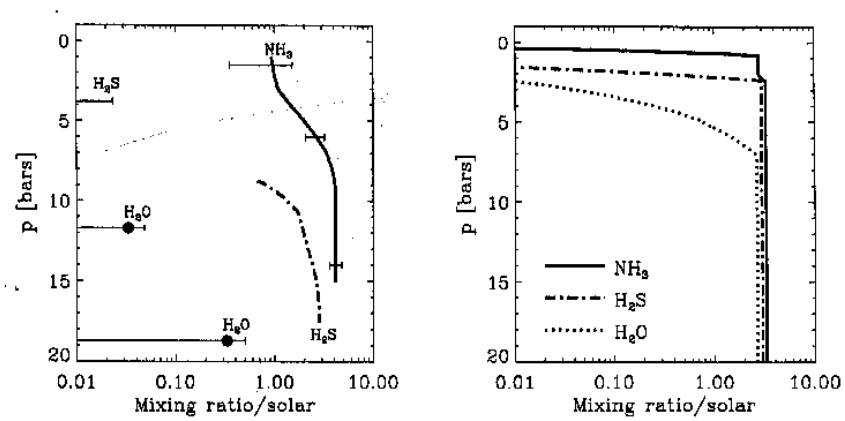

FIG. 1. (Left) Abundances of NH_3, H_2S, and H_2O vs pressure as measured by the Galileo probe. The NH_3 profile (thick solid line) is from Folkner *et al.* (1998), while the H_2S data (thick dash–dot line) and H_2O data (filled circles) are from Niemann *et al.* (1997). The filled circles represent actual detections of H_2O which are upper limits because of the possibility of outgassing from the equipment; the upper limit on H_2S at 3.8 bars is a nondetection. All data are preliminary and may be revised in the future. (Right) Profiles of NH_3 (solid line), H_2S (dash–dot line), and H_2O (dotted line) as predicted from an equilibrium condensation model, assuming deep abundances near 3 times solar. Comparison with the model shows that the observed increases with pressure cannot be caused by condensation. If they were caused by mixing from below, however, one would expect the mixing ratios of the three gases to increase together. The observed behavior is therefore puzzling.

Fig1 of Showman and Ingersol, 1998, Icarus, 132, p.207