Crystal structure of forsterite with 0.38wt%H2O and its possible hydrogen position

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Crystal structure of forsterite with 0.38wt%H2O synthesized at 13.5 GPa and 1300 C was analized. The refined structure (R=3.2%, Rw=2.8%) yields small amount of vacancies at Si site and Mg1 site. Calculated bond distances indicate that the O2 and the O3 are the possible oxygen sites for hydrogen.