THE INFRARED SPECTRA OF H_2S^+ AND D_2S^+ TRAPPED IN SOLID NEON

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When a very dilute mixture of H_2S or D_2S in neon is codeposited at 4.3 K with a beam of neon atoms that have been excited in a microwave discharge, the infrared spectrum of the resulting solid includes absorptions contributed by the corresponding cations. These assignments are supported both by earlier gas-phase observations and by the results of density functional calculations. The possible assignment of other, less prominent product absorptions to such species as the H_2S anion and SH^+ will also be considered.