

## Erratum: H<sub>2</sub>S in the L1157-B1 bow shock<sup>★</sup>

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We report an error in the article ‘H<sub>2</sub>S in the L1157-B1 bow shock’ published in 2016, MNRAS, 463, 802–810. The error affects the upper-state column densities of the H<sub>2</sub>S transition calculated from their total flux. An error in unit conversion gave a column density a factor of 10 larger than the correct value. This propagated through the analysis, leading to the reported fractional abundance of H<sub>2</sub>S in L1157-B1 being similarly too large. The correct fractional abundance of H<sub>2</sub>S in L1157-B1 is  $6.0 \pm 4.0 \times 10^{-8}$ . The deuteration fraction is unchanged.

The best-fitting chemical model of L1157-B1 was selected on two criteria: predicted fractional abundance and the comparison between the abundance and velocity profiles of NH<sub>3</sub> and H<sub>2</sub>S. With the revised value, the models where sulphur froze on to the grains without hydrogenating or froze and was converted into OCS (A and

D in the original work) predict fractional abundances within the error bar of the measured value. The OCS model still predicts an abundance profile that is inconsistent with the observed ratios of NH<sub>3</sub> and H<sub>2</sub>S, but the no-hydrogenation model (model A) cannot be excluded on this basis. As a result of the calculation error, it is therefore most likely that the third point of the conclusion that sulphur on the grains is largely in the form of H<sub>2</sub>S is incorrect.

A future article will revisit the H<sub>2</sub>S abundance in the context of a more complete analysis of sulphur-bearing species in L1157-B1.

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