

# $^{16}\text{O}_3$ Coriolis Coupling Parameters of the (521), (700), (280) and (342) Interacting States

Natural isotopic abundance: 0.992728.

|                    |   |
|--------------------|---|
| Reference          | [2012DeB]   |
| Method             | Continuous wave –cavity ring down spectroscopy.   |
| Equations          | Equations 10 and 23 in chapter “Introduction”.  |
| Statistical errors | One standard deviation in units of the least significant full size digits.  |
| Remarks            | All values are given in $\text{cm}^{-1}$ .<br>Calculated constants are purposely given with a supplementary digit, in index form, in order to reproduce the energy levels to experimental accuracy.<br>A definite choice between the (280) and the (342) dark state assignments, is not possible. As a result their vibrational designation could be interchanged in the designation of the Coriolis coupling parameters; Molecular constants determined in the same fit are given in chapter “ $^{16}\text{O}_3$ Vibrational Energy and Rotational and Centrifugal Distortion Constants for the (521), State, and for the Vibrational Dark States (700), (280), and (342)”<br>The isotopic composition of the elements used for the calculation of the natural isotopic abundance is taken from [2007Coh]. |
| Abbreviation       | SE: Statistical error.  |

|           | Coriolis type coupling parameters |    |                       |    |                         |    |
|-----------|-----------------------------------|----|-----------------------|----|-------------------------|----|
|           | <521H/dark 700>                   |    | <dark 280H/521>       |    | <dark 342H/521>         |    |
|           | Value                             | SE | Value                 | SE | Value                   | SE |
| $C_{001}$ | -0.00821 <sub>0</sub>             | 33 |                       |    |                         |    |
| $C_{011}$ | -0.00355 <sub>8</sub>             | 20 | 0.022486 <sub>6</sub> | 20 |                         |    |
| $C_{003}$ |                                   |    |                       |    | 0.00001132 <sub>4</sub> | 55 |

## Symbols and abbreviations

| Short form    | Full form                   |
|---------------|-----------------------------|
| $C_y, C_{yz}$ | Coriolis coupling parameter |
| SE            | Statistical error           |

## References

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