

# HYDROGEN ISOTOPES RETENTION STUDIES USING LASER AND MICROWAVE INDUCED PLASMA COUPLING

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## Supplementary material

Supplementary Table S1. Ar I lines data used for Boltzmann plot [1]

| transition<br>(lower – upper level)                                       | wavelength<br>$\lambda_{ki}$ (nm) | $g_k A_{ki}$ (s <sup>-1</sup> ) | upper level energy<br>$E_k$ (eV) |
|---------------------------------------------------------------------------|-----------------------------------|---------------------------------|----------------------------------|
| $3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 4s - 3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 5p$ | 416.4180                          | 8.7e+5                          | 14.5249                          |
| $3s^2 3p^5 ({}^2P^{\circ}_{1/2}) 4s - 3s^2 3p^5 ({}^2P^{\circ}_{1/2}) 5p$ | 419.1029                          | 1.6e+6                          | 14.6807                          |
| $3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 4s - 3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 5p$ | 419.8317                          | 2.57e+6                         | 14.5759                          |
| $3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 4s - 3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 5p$ | 425.1185                          | 3.33e+5                         | 14.4640                          |
| $3s^2 3p^5 ({}^2P^{\circ}_{1/2}) 4s - 3s^2 3p^5 ({}^2P^{\circ}_{1/2}) 5p$ | 425.9362                          | 3.98e+6                         | 14.7381                          |
| $3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 4s - 3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 5p$ | 426.6286                          | 1.6e+6                          | 14.5289                          |
| $3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 4p - 3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 5d$ | 603.2127                          | 2.21e+7                         | 15.1305                          |
| $3s^2 3p^5 ({}^2P^{\circ}_{3/2}) 4p - 3s^2 3p^5 ({}^2P^{\circ}_{1/2}) 4d$ | 605.9372                          | 2.1e+6                          | 14.9526                          |

## Reference

[1] NIST Atomic Spectra Database: <https://www.nist.gov/pml/atomic-spectra-database> (last update to data content: November 2024).

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