Erratum

Partial Cross Sections for Rb⁻ Photodetachment in the Region of the Rb(5p²P_{1/2, 3/2}) Thresholds and Their Analysis by Multichannel Quantum Defect Theory

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The last sentence of the article is incorrect and should be replaced by the following statement: For a pure *s*-wave photoelectron, the polarization of the fluorescence is independent of the laser frequency but nonzero {35}. The relevant polarization parameters, see {35} for their definition, are:

$$\frac{A_{10}(q=\pm 1)}{A_{00}} = \begin{cases} \pm\sqrt{2} & \text{for Rb } (5p_{1/2}) \\ \pm\frac{5}{4}\sqrt{2} & \text{for Rb } (5p_{3/2}) \end{cases}$$

$$\frac{A_{20}(q=\pm 1)}{A_{00}} = \begin{cases} 0 & \text{for Rb } (5p_{1/2}) \\ -\frac{1}{4}\sqrt{6} & \text{for Rb } (5p_{3/2}) \end{cases}$$

$$A_{10}(q=0)=0$$

$$A_{20}(q=0)=-2A_{20}(q=\pm 1).$$

Any polarization which departs from these constant values results from incoherent contributions of the *d*-waves to the *s*-wave accompanied by a coherent superposition of two possible angular momentum transfers from the photon to the photoelectron, see (18) of {35}. The recent work by C.H. Greene and R.N. Zare (Phys. Rev. A **25**, 2031, 1982) predicts in

the present example of an *s*-electron an alignment parameter equivalent to the above $A_{20}(q=0)/A_{00}$ whereas other partial waves contribute incoherently in terms of angular momentum transfers from the photon to the photoatom. Both theoretical treatments however are fully equivalent, and lead of course to the same results.

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