

Abstract Submitted
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Dipole and Quadrupole transition strengths in Ba⁺ from measurements of K-splittings in high-L Ba Rydberg levels¹ SHANNON L. WOODS, STEPHEN R. LUNDEEN, Colorado State University, WILLIAM G. STURRUS, Youngstown State University, ERICA L. SNOW, SUNY Fredonia — Measurements of K-splittings in high-L Rydberg levels of Ba have been used to determine electric dipole (6s-6p) and quadrupole (6s-5d) transition strengths in Ba⁺ [1]. In that report, good agreement with calculated values was found for the dipole strength but not for the quadrupole strength. Using the data pattern extended to higher L levels recently [2] and a more complete theoretical model, we find good agreement between the measured K-splittings and the most recent theoretical calculations of relevant transition strengths.[3] [1] E.S. Shuman and T.F. Gallagher, Phys. Rev. A 74, 022502 (2006) [2] E.L. Snow, et. al., Phys. Rev. 71, 022510 (2005) [3] E. Iskrenova-Tchoukova and M. S. Safronova, et. al. Phys. Rev. A 78, 012508 (2008)

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