

Abstract Submitted
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Study of La-binding energies by analysis of its photodetachment spectrum¹ LIN PAN, Cedarville University, DONALD BECK, Michigan Technological University — In this study, relativistic configuration interaction (RCI) is employed to investigate the electron affinity and binding energies of the negative ion of lanthanum, by reinterpreting an earlier experimental photoelectron kinetic energy spectrum [1] of La^- . For the electron affinity of lanthanum, our study revises the original experimental interpretation of 0.47 ± 0.02 eV and agrees well with the earlier RCI value of 0.545 eV [2]. The calculation yields also the binding energies for thirteen excited states of La^- . These energies are compared to results of recent experimental studies on La^- [3-5]. The details of the calculation, identities of main features in the experimental spectrum will be presented in our poster. [1] A. M. Covington *et al.*, *J. Phys. B* **31**, L855 (1998). [2] S. M. O'Malley and D. R. Beck, *Phys. Rev. A* **79**, 012511 (2009). [3] C. W. Walter *et al.*, *Phys. Rev. Lett.* **113**, 063001 (2014). [4] E. Jordan *et al.*, *Phys. Rev. Lett.* **115**, 113001 (2015). [5] A. Kellerbauer *et al.*, *Phys. Scrip.* **90**, 054014 (2015).

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