

Abstract Submitted  
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**Revised Analysis and Configuration Interaction in Mo VI** JOSEPH READER, NIST — Mo VI, with ground term  $4p^6 4d \ ^2D$ , has a simple one-electron spectrum  $4p^6 nl-4p^6 n'l'$  as well as a more complex spectrum arising from inner-shell excitations  $4p^5 4d^2$  and  $4p^5 4d5s$ . A few years ago we observed the spectrum of Mo VI from 200 to 5300 Å with a sliding-spark and the 10.7-m normal- and grazing-incidence spectrographs at NIST. We revised a number of the known even levels of the one-electron spectrum [1] and confirmed the ionization limit [1], which was based largely on the Penning discharge observations of Romanov and Striganov [2]. A number of Romanov and Striganov's line identifications were also revised. Our results have not yet been published. More recently, we revisited the  $4p^6(4d+5s)-4p^5(4d^2+4d5s)$  transitions and revised several of the core-excited levels [3]. Some levels of  $4p^5 4d^2$  are highly mixed with one-electron levels, resulting in transitions at longer wavelengths between  $4p^5 4d^2$  and one-electron levels. This provides accurate connections between the ground term and some highly-excited levels and thus highly accurate Ritz-type wavelength predictions for resonance transitions. Improved values have been obtained for all of the energy levels and a new least-squares fit for the odd configurations carried out. [1] B. Edlén, et al., *Phys. Scr.* **32**, 215 (1985). [2] N. P. Romanov and A. R. Striganov, *Opt. Spectrosc. (USSR)* **27**, 8 (1969). [3] A. Kancerevicius et al., *Lith. Phys. J.* **31**, 143 (1991). Supported by Office of Fusion Energy Sciences of D.O.E.

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