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Relativistic many body calculations of energies, matrix elements and lifetimes of Mo and Tc Ions. DADONG HUANG, Dept. of Physics and Astronomy, University of Delaware, U.I. SAFRONOVA, Dept. of Physics and Astronomy, University of Nevada-Reno, M.S. SAFRONOVA, Z. ZUHRIANDA, Dept. of Physics and Astronomy, University of Delaware — We carried a systematic study for Mo^{6+} , Mo^{5+} , Mo^{4+} , Tc^{7+} , Tc^{6+} and Tc^{5+} . Valence removal energies, E1, E2 and M1 reduced matrix elements and lifetimes are determined. The calculations are carried out by using CI+MBPT and CI+all-order methods. In these methods the contributions from the core-core, core-valence and valence-valence correlations are accounted. The results are given along with energy comparison from the available experimental values. The determination of the spectra of Tc ions is needed for the stellar astrophysics studies.

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