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# Radiative rates for E1, E2, M1, and M2 transitions in F-like ions with $55 \leq Z \leq 73$

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## ABSTRACT

Energy levels, radiative rates and lifetimes are reported for 19 F-like ions with  $55 \leq Z \leq 73$ , among 113 levels of the  $2s^2 2p^5$ ,  $2s 2p^6$ ,  $2s^2 2p^4 3\ell$ ,  $2s 2p^5 3\ell$ , and  $2p^6 3\ell$  configurations. The general-purpose relativistic atomic structure package (GRASP) has been adopted for the calculations, and radiative rates (and other associated parameters, such as oscillator strengths and line strengths) are listed for all E1, E2, M1, and M2 transitions of the ions. Comparisons are made with earlier available theoretical and experimental energies, especially for Ba XLVIII. Nevertheless, calculations have also been performed with the flexible atomic code (FAC), and with a much larger configuration interaction with up to 38 089 levels, for further accuracy assessments, particularly for energy levels.

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