



1. Title:	Systematics of Atomic 4d-4f Transitions of Atomic Ions in EUVL source plasmas and Neighboring Atomic Numbers.
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3. Abstract body:

The emissions of EUV lines in the wavelength 13.5nm band in one of the candidates of the EUVL source device Sn are considered as of the 4d-4f transition arrays of Sn Atomic Ions of ionicity ranging from 6+ to 13+ and of the possible satellite lines. The 4d-4f transitions of Sn Ions are heavily influenced by the interference with the 4p-4d transitions that take place simultaneously in the same atomic ionic electronic states. For Sn ions, we have carried out line by line sophisticated calculations and investigated the spectral structure of the 4d-4f transitions using a set of multi-configuration Dirac-Fock and its adjacent atomic structure codes GRASP and RATIP package.

To clarify the mechanisms and the systematics of the interference structures of 4d-4f and 4p-4d transitions, we have also carried out similar calculations for atomic ions with atomic numbers ranging from Z=48 to Z=56. The atomic number dependence of the spectrum for the ions with iso-electronic structures are investigated in detail.

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