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$L\beta_2$ satellites in the X-ray emission spectra of 5d transition elements SURENDRA POONIA, Research Scientist (Atomic and X-Ray Emission Spectroscopy), Division of NRE, Central Arid Zone Research Institute, Jodhpur, India — The X-ray satellite spectra arising due to $L_3M_x-M_xN_{4,5}$ ($x \equiv 1-5$) transition array, in elements with $Z = 74$ to 90 , have been calculated. The energies of various transitions of the array have been determined by using available HFS data on K-LM and L-MN Auger transition energies, their relative intensities have been estimated by considering cross sections of singly ionized L_3M_x ($x \equiv 4, 5$) states and then of subsequent Coster-Kronig (CK) and shake off processes. The calculated spectra have been compared with the measured satellite energies in $L\beta_2$ spectra. The peaks in the theoretical spectra were compared with the available measured $L\beta_2$ satellite spectra. The peaks in the theoretical satellite spectra were identified as the experimentally reported satellites β_2^I and β_2^{II} , which lie on the high-energy side of the $L\beta_2$ dipole line.

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