## The L<sub>III</sub> Subshell X-ray Production Cross Sections of Yb, Hf, Ta and W elements at Photons of 0,0208 Nanometer Wavelength

Tanuary 13-15 2014

## M. F. Turhan<sup>1</sup> F. Akman<sup>2</sup> and R. Durak<sup>3</sup>

<sup>1</sup> Afyon Kocatepe University, Atatürk Health Services Vocational High School, Medical Imaging Techniques, 03200 Afyon, Turkey.

<sup>2</sup> Bingöl University, Arts and Sciences Faculty, Department of Physics, 12000 Bingöl, Turkey <sup>3</sup> Atatürk University, Sciences Faculty, Department of Physics, 25240 Erzurum, Turkey m.f.turhan@hotmail.com

Study of the  $L_{III}$  subshell X-ray production cross sections are important for understanding the complex processes involved in the inner-shell ionization and also provide a testing ground for the available theoretical models explaining these processes. The reliable and accurate data on the  $L_{III}$  X-ray production cross sections are important in atomic and molecular physics, qualitative and quantitative element analysis using XRF (X-ray Fluorescence) technique and medical physics. The  $L_{III}$  X-ray production cross-sections of Yb, Hf, Ta and elements were determined with experimentally and theoretically. The targets were irradiated with photons of 0,0208 nm wavelength. It has been observed that the obtained values in the present study agree with theoretical results and other available experimental values.