

## Studies on absorption coefficient near edge of multi elements

M.H. Eisa<sup>a</sup>, H. Shen<sup>a, b</sup>, H.Y. Yao<sup>a, b</sup>, Y. Mi<sup>a</sup>, Z.Y. Zhou<sup>a</sup>, T.D. Hu<sup>c</sup>, Y.N. Xie<sup>c</sup>

<sup>a</sup>Institute of Modern Physics, Fudan University, Shanghai 200433, PR China

<sup>b</sup>Synchrotron Radiation Research Center, Fudan, Shanghai 200433, PR China

<sup>c</sup>Institute of High Energy Physics, Beijing 100039, PR China

### Abstract

X-ray absorption near edge structure (XANES) was used to study the near edge mass-absorption coefficients of seven elements, such as, Ti, V, Fe, Co, Ni, Cu and Zn. It is well known that, on the near edge absorption of element, when incident X-ray a few eV change can make the absorption coefficient an order magnitude alteration. So that, there are only a few points mass-absorption coefficient at the near edge absorption and that always average value in published table. Our results showed a wide range of data, the total measured data of mass-absorption coefficient of the seven elements was about 505. The investigation confirmed that XANES is useful technique for multi-element absorption coefficient measurement. Details of experimental methods and results are given and discussed. The experimental work has been performed at Beijing Synchrotron Radiation Facility. The measured values were compared with the published data. Good agreement between experimental results and published data is obtained.

Keywords: Synchrotron radiation; Mass-absorption coefficient; XANES

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