

Investigate the electronic and atomic structures of Y/Yb-doped TbMnO₃

Wei-Chi Jiang (姜瑋琪)¹, Yue-Ting Jiang (江岳庭)¹, Tai-Chun Han (韓岱君)¹, Jau-Wern Chiou (邱昭文)¹

¹Department of Applied Physics, National University of Kaohsiung, Kaohsiung 811, Taiwan
a1064327@mail.nuk.edu.tw

Abstract

Well known multiferroic compounds present a strong coupling between antiferromagnetism and ferroelectricity. TbMnO₃, a typical multiferroic perovskite, shows obvious relaxations at high and low temperature with different mechanisms, respectively, and can be applied in magnetic recording, ferromagnetic storage and sensor applications. In this special study, we investigate the effect of Y/Yb-doping concentration on the electronic structure of TbMnO₃ powders through x-ray absorption near-edge structure (XANES), valence-band photoemission spectroscopy (VB-PES) and x-ray emission spectroscopy (XES).