## Low-temperature Phase Transitions for Solid Solutions of TbVO4/DyVO4

Horst Borrmann, Max-Planck-Institut für Chemische Physik fester Stoffe, Nöthnitzer Strasse 40, 01187 Dresden, Germany. E-mail: borrmann@cpfs.mpg.de

Structural phase transitions of the isostructural vanadates TbVO4 at about 32 K and DyVO4 at about 14 K have been known for quite some time and are frequently used as reference temperatures in low-temperature diffraction experiments. Although both low-temperature phases are orthorhombic, the respective structures are decisively different as clearly indicated by the splitting of different reflections in the powder patterns when cooling the tetragonal high-temperature forms. We have studied solid solutions of these two vanadates to investigate the potential interplay of two structural transitions.

Keywords: phase transitions in solids, powder diffraction, rareearth compounds