Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Ferroelectric microdomains and magnetocapacitance in Ti-doped YMnO3 S. MORI, Y. HORIBE, Osaka Prefecture University, Y. AIKAWA, Waseda University, K. TSUDA, T. ARIMA, IMRAM, Tohoku University, T. KATSUFUJI, Waseda University — We have investigated microstructure giving rise to the magnetocapacitance (MC) in Ti-doped $YMn_{1-x}Ti_xO_3$ by electron microscopy, combining with conventional magnetic measurement We found characteristic diffuse scatterings elongated along both the [001] and [110] directions in x=0.175, which shows the maximum value of the MC. In addition, the microdomains with the size of 10-20nm consisting of ferroelectric (FE) phase appear in x=0.175. As the Ti concentration (x) is increasing, the paraelectric phase grows up at the expense of the FE phase and the paraelectric phase is dominated above x=0.2. We will discuss the relation between the MC and FE microdomains in this compound.

S. Mori
Osaka Prefecture University

Date submitted: 08 Dec 2004 Electronic form version 1.4