

K. Golasinski, E. Pieczyska, M. Maj, M. Staszczak, N. Takesue, *Plastmet 2016, Jubileuszowe X Seminarium Naukowe ZINTEGROWANE STUDIA PODSTAW DEFORMACJI PLASTYCZNEJ METALI*, Lancut, Poland(2016-11-22/11-25).

**Experimental study of solid solutions of bismuth-sodium titanate BNT based on their simulated ionicity/covalency.** / K. Asakura, Y. Asano, N. Takesue (Fukuoka Univ.), Z. Xu, K. Matsugi (Hiroshima Univ.) / We fabricated perovskite  $ABO_3$  ferroelectric solid-solution systems, which is based on our previous first-principles cluster calculation; the fabrications were done by flux powder sintering. Crystal structures of the samples were investigated by X-ray diffraction; (200) Bragg reflections of the typical primitive cell were monitored carefully. The results of, e.g.  $(Bi_{1/2}Na_{1/2})TiO_3$ - $BaTiO_3$ , show a possible morphotropic feature over phase states of the tetragonal and rhombohedral structures. We expect that the effect will provide the excellent piezoelectric properties. We will present systematic results of these measurements.

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