

GUM METAL IN COMPRESSION

– INVESTIGATION OF MECHANICAL ANISOTROPY CAUSED BY TEXTURE

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Experimental study of solid solutions of bismuth-sodium titanate BNT. / K. Asakura, N. Takesue, Y. Asano, K. Kiba, M. Shibuya (Fukuoka Univ.) / We fabricated perovskite ABO₃ ferroelectric solid-solution systems of a bismuth-sodium titanate base; the fabrications were done by flux powder sintering. Crystal structures of the samples were investigated by X-ray diffraction; (111) and (200) Bragg reflections of the typical primitive cell were monitored carefully. The results of, e.g. (Bi_{1/2}Na_{1/2})TiO₃-BaTiO₃, show a possible morphotropic feature over phase states of both tetragonal and rhombohedral structures. We expect that this system will be the fundamental system for excellent piezoelectric properties. The results including measurements of dielectricity will be presented systematically, also for other systems.

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