

Bi₄Ge₃O₁₂ Single Crystal Growth and γ -ray Detection Application

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Various radiation(X, γ -ray) detectors are used for industrial measurement and control (thickness, level, moisture, density) in Steel factory fields. Most of the radiation detectors are composed of inorganic scintillation crystal and photo multiplier. We report the following results: (1) A review of industrial radiation applications using Bi₄Ge₃O₁₂(BGO) crystal, (2) crystal growth of BGO, (3) fabrication of BGO device, (4) field test of BGO device for the level measurement and control in the POSCO(pohang steel company Co.) field.