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Development of single crystals with a high index of refraction

Cherenkov counter is used in High Energy Physics or Nuclear Physics, and it is expected to be applied to medical imaging. Time-of-flight Positron emission tomography (TOF-PET) is one of the next-generation medical imaging methods, and a scintillator with a fast decay time is required. However, fast scintillation decay times are typically 10 - 30 nsec, and this order is not sufficient for TOF-PET. Thus, we try to develop the new crystals a high refractive index as a Cherenkov radiator, and we investigated these single crystals. The sample crystals had a high refractive index of over 2.5 at 400 nm. In this presentation, we report and evaluate these crystals as a Cherenkov radiator.

quote your primary experiment

Scintillator

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