



Contribution ID: 345 Contribution code: S1 Physics Innovation

Type: Poster Presentation

Isotropic and Anisotropic Materials Characterization Technique by Polarization Sensitive Optical Coherence Tomography

Isotropic and anisotropic are type of materials, which is considered from the structural nature of the material with a symmetry and asymmetry structure, respectively. The structure can affect the optical properties of different materials. Due to the symmetrical structure of the material, there will be no effect on the incident polarized light, different from asymmetrical materials. It affects polarized light by causing a change in polarized light. Therefore, the type of material can be determined by the polarized light changed from the material. In this paper, we would like to present a material characterization technique by polarization sensitive optical coherence tomography technique. This technique is cross-sectional imaging by measuring the change in polarized light reflected from a sample material. The example as cover slide glass, plastic tape and double-sided adhesive are presented. The experimental results verified that PS-OCT can analyze the symmetry and asymmetry structure of the materials.

Keyword: polarization sensitive optical coherence tomography, PS-OCT, isotropic, anisotropic

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Session Classification: Poster: S1 Physics innovation

Track Classification: Physics Innovation