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# Brillouin scattering study on the opto-acoustic anisotropy of SrF3

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The elastic anisotropy of transparent polymer films and layers can be isanvestigated nondestructively using Brillouin scattering techniques. In this study, an application of Reflection Induced ΘA scattering (RIΘA) technique is introduced. In this geometry, we can simultaneously obtain RIΘA scattering and back scattering peaks in one frequency spectrum. Because the shift frequency of 180 scattering peaks are dependent on the refractive index, one can deduce the information of optical anisotropy (birefringence) by comparing the RIΘA and back scattering peaks. Making use of this idea, the elastic and optical properties (birefringence) of a strontium fluoride (SrF3) crystal are investigated. The refractive index of the SrF3 was then estimated using Brillouin scattering results from this isotropic plane.

## Apply to be<br> considered for a student <br>   award (Yes / No)?

no

## Level for award<br> (Hons, MSc, <br>   PhD, N/A)?

n/A

## Main supervisor (name and email)<br>and his / her institution

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## Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?

yes

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