



Canadian Association  
of Physicists

Association canadienne  
des physiciens et physiciennes

Contribution ID: 4206

Type: Oral (Non-Student) / Orale (non-étudiant(e))

## High resolution strain measurements in highly disordered materials

*Tuesday, May 28, 2024 2:15 PM (15 minutes)*

The ability to measure small deformations or strains is useful for understanding many aspects of materials especially in soft condensed matter systems. Systematic shifts of speckles arising from small angle x-ray coherent diffraction when analyzed enable flow patterns of particle in the elastomers to be inferred. This information is obtained from cross-correlations of speckle patterns. This speckle tracking technique measures strain patterns with a accuracy similar to X-ray single crystal measurements but in amorphous or highly disordered materials.

### Keyword-1

X-ray Diffraction

### Keyword-2

coherence

### Keyword-3

XPCS

**Primary author:** SUTTON, Mark (McGill)

**Presenter:** SUTTON, Mark (McGill)

**Session Classification:** (DCMMP) T2-7 Material Properties | Propriétés des matériaux (DPMCM)

**Track Classification:** Technical Sessions / Sessions techniques: Condensed Matter and Materials Physics / Physique de la matière condensée et matériaux (DCMMP-DPMCM)