



Canadian Association
of Physicists

Association canadienne
des physiciens et physiciennes

Contribution ID: 2741

Type: **Invited Speaker / Conférencier(ère) invité(e)**

Direct Measurement of the Dynamic Modulus of Gellan Gum Micro-Capsules

Monday 3 June 2019 11:15 (30 minutes)

Micro-capsules are increasingly being studied as models for cells, as drug delivery vehicles, and even as devices for enhanced oil recovery from porous substrates. As such, understanding of their mechanical properties is critical for rational design and optimal performance. Here we describe experiments using a Cantilevered-Capillary Force Apparatus to probe the dynamic (or complex) modulus of micro-capsules under axial compression. The micro-capsules used in this study are approximately 200 microns in diameter and are composed of a sunflower-oil core surrounded by a gellan-gum shell.

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Session Classification: M1-9 Soft Condensed Matter I (DCMMP) | Matière condensée molle I (DPMCM)

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