

## 特別講演会のお知らせ

下記のとおり特別講演会を開催いたしますので、ご多忙中とは存じますが是非ご参加下さいますようご案内申し上げます。

講演内容ですが、薄膜のナノインデンテーション試験による機械特性の評価、特に高分子薄膜及びトライボフィルムの粘弾性解析についてご講演いただく予定です。

### 記

日 時：平成21年2月12日(木) 15:00~16:00

場 所：流体科学研究所 大講義室(西) (2号館5階)

題 目：Rheological properties of thin films measured by nanoindentation  
: temperature and time effects

講 師：Dr. Sandrin Bec

(Laboratoire de Tribologie et Dynamique des Systemes, Ecole  
Centrale de Lyon, FRANCE)

### 講演概要：

The increasing use of polymeric materials as thin coatings requires appropriate mechanical characterization methods at micro and nano-scale taking into account time-dependent and temperature effects. A dynamic nanoindentation technique has been developed for viscoelastic analysis of polymer thin films, using a Nanoindenter XP entirely set inside a climatic chamber with controlled temperature. Results are focused on the case of photo-reticulated polymer layers thicker than 1 micrometer, at different penetration depths compared to the film thickness. Temperature and time effect are also key points to understand the antiwear properties of ZDTP tribofilms. For these films, a change in the rheological behaviour has been observed as a function of temperature, from viscoplastic behaviour at low temperature to "shear thinning-like" behaviour at higher temperature.

知的流動評価研究分野

高木敏行

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### 連絡先

東北大学流体科学研究所 三木 寛之

〒980-8577 仙台市青葉区片平 2-1-1

電話/FAX (022) 217-5298

E-mail: [miki@wert.ifs.tohoku.ac.jp](mailto:miki@wert.ifs.tohoku.ac.jp)

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