Réunions scientifiques

Séminaires

Séminaire SOLEIL

Gulliver's travels beyond Jonathan Swift or microradian x-ray crystallography of colloidal self-assembly

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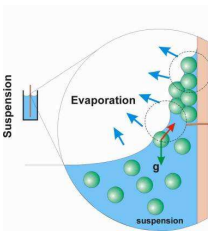
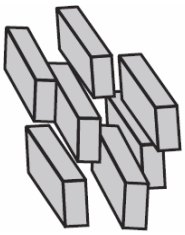
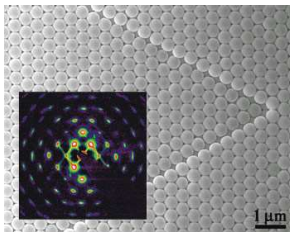
Lundi 31 mai à 14h00
Grand Amphi SOLEIL

Invitée par M.A. LANGUILLE et F. MENEAU

Did you ever dream to be a Gulliver in the land of Lilliput, where people are much smaller than usual? Now imagine that the size difference is not 'only' a factor of twelve as it was in the story of Jonathan Swift. Imagine that you can hardly see the Lilliputians since they are thousands times smaller. This is about the difference between 'ordinary' atoms (a couple of Angstroms) and colloids (~100 – 1000 nm) we are usually working with. Despite this tremendous size difference, colloids often behave very similar to atoms and molecules and are able to form beautiful colloidal crystals and colloidal liquid crystals. These self-organisation phenomena can significantly affect the properties of the colloidal suspensions and can be used to fabricate novel functional materials. To study them, we extensively use x-ray crystallography. In the talk I shall explain you the challenge originating from the enormous difference between the sizes of the colloidal 'Gullivers' and the x-ray wavelength. I shall explain how we manage to meet the challenge using microradian x-ray diffraction. A few recent examples of our studies of colloidal self-assembly will be presented. I shall show that x-rays are able to reveal the crystal structure, long-range order and the presence of various types of disorder.







Formalités d'entrée *: accès libre dans l'amphi du Pavillon d'Accueil. Si la manifestation a lieu dans le Grand Amphi Soleil du Bâtiment Central, merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès).*

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