



Institut de Minéralogie et de Physique des Milieux Condensés
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SÉMINAIRE

Lundi 6 février, 10h30

*Salle de Conférence, 4ème étage, Tour 22-23, Salle 1
IMPMC, Université P. et M. Curie, 4, Place Jussieu, 75005 Paris*

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THE EFFECT OF PRESSURE ON MOLECULAR MAGNETISM

Clusters of paramagnetic metal ions have attracted intense study since the discovery that such molecules can display the phenomenon of single-molecule magnetism. The energy barrier to the relaxation of the magnetisation implies a large ground state spin multiplicity (S) and a significant zero-field splitting (D) of that ground state. The strength of coupling and the magnitude of the zero-field splitting are governed by the molecular geometry. The application of pressure can significantly change the intra-molecular bond lengths, angles and, occasionally, the connectivity: in-so-doing greatly modifies the observed magnetic parameters.

Two 'Mn6' SMMs, hydroxo-bridged Cu dimers and Cu-based chains can all be structurally and magnetically distorted by pressure. We describe the combined crystallographic, magnetic and EPR experiments, all performed at high pressure, on these materials.