



# CMCC *Mechanochemistry Discussions*

Online Seminar Series

## Bismuth Under Pressure

Livestreaming at  
10:00 AM (CT)

THURS., October 21, 2021

on the CMCC YouTube Channel:  
<https://www.youtube.com/channel/UC7eCYPKbGTKpgO7W2bNABxg>



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### ABSTRACT:

Bismuth is nominally the heaviest element stable to radioactive decay; accordingly, it possesses a significant amount of spin-orbit coupling. We are harnessing this spin orbit coupling to perturb the properties of other atoms. Our effort spans molecules and materials, with a key emphasis on reconstituting a magnetic moment from its two constituent components - spin and orbital angular momentum. Bismuth offers orbital angular momentum, while paramagnetic transition metals provide spin. Here we are creating new transition metal bismuth interactions and probing their magnetic properties. Research on Fe-Bi compounds will be presented, with an emphasis on unusual magnetic and spectroscopic approaches to probe these materials.



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