

## Probing dark matter with phonons

I will discuss recent developments towards direct detection of dark matter with phonons. At sufficiently low nuclear recoil energy, the scattering of dark matter (DM) in crystals gives rise to single phonon and multiphonon excitations. I will discuss how in anisotropic crystals, the scattering rate into phonons modulates over each sidereal day as the crystal rotates with respect to the DM wind. This gives a potential avenue for directional detection of DM. I will also discuss the potential for detecting dark matter with micro-eV phonons.

**Author:** LIN, Tongyan

**Presenter:** LIN, Tongyan