

## **Students' Annual Webinar**

### **Short time peak in Four-point Dynamic Susceptibility in the supercooled Active Glass-forming liquid**

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Supercooled glass forming liquids in the presence of (activity) driven particles gives us the active glassy system, this model can be used to mimic the complex biological system. One of the important hallmark in the dynamics of a glassy system is the presence of caging region during the transition from ballistic to diffusive region in MSD (mean-square-displacement) curve, and another one is the increase of dynamic heterogeneity (DH) near the glass transition temperature. Here we have studied the DH using the four-point dynamic susceptibility ( $\chi_4(t)$ ), and found that at short-time there are additional peaks in  $\chi_4(t)$  which grow with increasing activity as well as system-size. From the systematic study of the first peak in  $\chi_4(t)$  we try to find out the origin of it and how it can be utilized to quantify the presence of activity in the system.

***Wednesday, May 18<sup>th</sup> 2022***

***4:00 PM***