

Mechanical Response of ^4He Films Adsorbed on Single-crystalline Graphite

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It is interesting to study the sliding direction dependence of the sliding friction for physisorbed films. Thus motivated, we carried out quartz-crystal microbalance (QCM) experiments for ^4He films adsorbed on exfoliated single-crystalline graphite. One QCM oscillated parallel to the a-axis of graphite, while the other one in the direction inclined at about 30° with respect to the a-axis of graphite. Preliminary results show no large difference of the coupled mass between the two directions. Detailed direction and coverage dependences will be demonstrated.