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Type: **Poster Only (Best Student Presentation Award)**

Linear Reciprocating Tribometer for In Situ Neutron Reflectometry of Soft Matter

Neutron reflectivity excels at elucidating structure of soft mater interfaces. Sample environments have previously been used to study soft matter interfaces at rest, in compression, and subject to non-uniform shear stress. This work showcases a new custom tribometer design for conducting in situ measurements of forces during dynamic compression and linear sliding motion coupled with neutron reflectometry to observe structural changes within soft matter. Design considerations for safety, neutron transmission, and sample positioning are discussed. Preliminary neutron reflectivity data from compression and sliding tests of polyacrylamide hydrogels are also presented.

Topical Area

Soft matter: polymers, and complex fluids

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