



The Materials Information Society

Carolinas Central Chapter

Feb 19, 2009
EB1 Room 3035

February Meeting

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Lubrication and degradation of interfaces in extreme environments

Interfacial degradation limits the performance of devices at most length scales. An example of a large scale device is an electromagnetic launcher (EMLs), which uses large current densities to generate Lorentz forces that can be used to launch projectiles at velocities as high as 20 km/s. Although the propulsion physics is well understood, the interfacial degradation, which limits the reliability of launch, is not. Similarly, the interfaces between moving parts of Silicon based micro-electrical-mechanical systems (MEMs) need to be constantly lubricated for reliable use. Traditional lubricants often protect the device in the initial stages of use but their performance quickly deteriorates with repetitive cycling. Mitigating the degradation issues of these devices remains the major obstacle to long term reliability. In this talk, I will present areas of current research that use multi-scale simulations to address degradation issues in MEMs and EMLs.

Officers Meeting.....	5:45 pm
Dinner	6:30 pm
Program.....	7:15 pm

If you plan to attend, please RSVP by no later than Feb 17 by registering at the chapter website or contacting one of the officers listed.

Next Meeting: March

Sustaining Members



Accident Reconstruction

