

Dynamics and Cohesion of Materials Interfaces and Confined Phases Under Stress

Spring 2008 CMSN Meeting

April 3-4, 2008

Northeastern University

Boston, MA

Thursday, April 3

8:30-8:40	A. Karma	Welcome
8:40-9:00	J. Hoyt	Review of Experimental Evidence for Grain Boundary Premelting in Metals
9:00-9:30	A. Karma	Continuum Theories of Grain Coalescence
9:30-9:50	R. Spatschek	Phase-Field Modeling of Liquid Metal Embrittlement
9:50-10:15	Break	
10:15-10:45	Y. Mishin	Update on Grain Boundary Premelting in Alloys
10:45-11:00	M. Asta	Disjoining Potentials from Grain-Boundary Width Fluctuations
11:00-11:15	S. Foiles	A Short Comment on the Temperature Variation of Grain Boundary Free Energy
11:15-11:30	S. Jindal	Update on Premelting in Asymmetric Tilt Boundaries in Cu
11:30-12:00	Discussion	
12:00-1:30	Lunch	
1:30-1:45	D. Olmsted	How Close Are Two Grains in the Five Dimensional Crystallographic Space?
1:45-2:00	J. Hoyt	Lattice-Switch Monte-Carlo Calculation of Twin Boundary Free Energy
2:00-2:15	Z. Traut	Cleaving Method for Extracting Solid-Solid Interface Free Energies
2:15-2:30	B. Laird	Surface Free Energies at Walls
2:30-3:00	Break	
3:00-3:15	M. Mendeleev	Development of Ni-Pb Potentials Suitable for MD Simulation of Liquid Metal Embrittlement
3:15-3:30	C. Becker	Update on Potential Database Project
3:30-3:45	F. Uyar	Mean Width and Growth Rates in 3D Microstructures
3:45-4:00	E. Lazar	Towards a New, Accurate, Efficient Approach for Simulating Grain Growth
4:00-4:30	Break	
4:30-4:45	A. Lim	Grain Boundary Migration and Mobility from a Dislocation Dynamics Perspective
4:45-5:00	V. Ivanov	Dynamics of Grain Boundary Motion Coupled to Shear
5:00-5:15	A. Rollett	Analysis of Polycrystal Deformation with Soft Boundaries
5:15-5:30	S. Wilson	Update on Anisotropic Grain Growth Models

Friday, April 4

9:00-9:30	W. Boettinger	Whisker and Hillock Growth in Sn Electrodeposits
9:30-10:00	Discussion	
10:00-10:15	J. Warren	Challenges Modeling a Three Phase Alloy with Hydrodynamics
10:15-10:45	D. Lewis	Interfaces in Good Glass Forming Systems
10:45-11:00	M. Upmanyu	Recent Progress in Quantifying the Solute-Drag Effect in Al-Mg
11:00-11:15	J. Hoyt	Solute Trapping - An Analysis Based on Chernov Theory
11:15-11:45	M. Asta	Wrap up and plans for next meeting

Participant List:

1. A. Adlan (Northeastern University)
2. M. Asta (UC Davis)
3. C. Becker (NIST)
4. W. Boettinger (NIST)
5. L. Brush (University of Washington)
6. S. Foiles (Sandia)
7. J. Guyer (NIST)
8. J. Hoyt (McMaster University)
9. V. Ivanov (George Mason University)
10. S. Jindal (UC Davis)
11. A. Karma (Northeastern)
12. B. Laird (Kansas University)
13. M. Lazar (Princeton)
14. D. Lewis (RPI)
15. A. Lim (Princeton)
16. G. McFadden (NIST)
17. M. Mendeleev (Ames)
18. Y. Mishin (George Mason University)
19. J. Morris (ORNL)
20. D. Olmsted (Sandia)
21. A. Rollett (CMU)
22. R. Spatschek (Northeastern)
23. D. Srolovitz (Yeshiva University)
24. Z. Trautt (Colorado School of Mines)
25. M. Upmanyu (Colorado School of Mines)
26. N. Wang (Northeastern University)
27. J. Warren (NIST)