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251st National ACS Meeting
Division of Physical Chemistry

Electrochemistry at Solid/Liquid Interfaces

Oleg Borodin
Yue Qi
Organizers

San Diego Convention Center
ROOMS 28D & 28C
properties from atomistic and continuous media across the solid/liquid interface using first principles and classical simulations based supercapacitors.

Electrochemical transmission electron microscopy (ETEM) has been utilized to probe electronic structure at conditions.

F. Gossenberger, T. Roman, S. Roke


SUNDAY AFTERNOON * ROOM 28D  Yue Qi and Oleg Borodin, Presiding

2:10 (62). Ab initio simulations of charged interface effects in graphene-based supercapacitors. B. Wood
2:50 (63). Dynamic charge storage in nanopores filled with ionic liquids. R. Qiao, Y. He, A.A. Kornyshev, J. Huang, B. Sumpter
3:30 INTERMISSION
4:00 (65). In-situ study of electric double layers and ionic transport across the solid/liquid interface using scanning probe microscopy. J. Come, J. Black, N. Balke
4:20 (66). Modeling charge transfer and dielectric response of atomistic and continuous media. M.H. Muser
5:00 (67). Ionic liquids at charged interfaces: Static and dynamic properties from atomistic simulations. J. Vatamanu, D. Bedrov

MONDAY MORNING * ROOM 28D  Yue Qi, Presiding

8:00 (109). How SLE forms in aqueous electrolytes. L. Suo, C. Wang, O. Borodin, K. Xu
8:40 (110). Mechanism of LiNi0.5Mn1.5O4 dissolution in organic carbonate electrolytes. A. Jarry, R. Kostecki
9:20 (111). Ab initio molecular dynamics simulations of Mn(III) dissolution from Li10Mn2O4(4) surfaces. K. Leung
10:00 INTERMISSION
10:10 (112). Modeling of oxidation decomposition reactions and transition metal dissolution at the electrolyte/cathode interface for the spinel-structured LiNi0.5Mn1.5O4 high-voltage cathode. M. Olguin, O. Borodin
10:30 (113). Transport mechanisms in ionic-liquid-based electrolytes for magnesium batteries. G.A. Giffin, S. Passerini
11:10 (114). Roles of solid electrolyte interphases in rechargeable lithium, sulfur and lithium metal fluoride batteries. G. Yushin

MONDAY AFTERNOON * ROOM 28D  Yue Qi, Presiding

1:30 (159). Electrochemical stability of solid electrolytes. C. Wang, F. Han
2:10 (160). Electrochemical stiffness in lithium ion battery anodes and cathodes. A.A. Gewirth
2:50 (161). Li-doped ionic liquid electrolytes: From bulk phase to interfacial behavior. J. Haskins, J. Lawson
3:30 INTERMISSION
4:00 (163). Electrochemical lithiation process into Si substrate. N. Aoki, A. Omachi, T. Kondo, K. Usako
4:20 (164). Using quartz crystal microbalance with dissipation (QCM-D) measurements to characterize in situ Li-ion battery solid-electrolyte interphases. M.C. Dixon, Z. Yang, L. Trahey

TUESDAY MORNING * ROOM 28C  Justin Haskins, Presiding

8:00 (208). Improved methods for the ab initio simulation of electrochemical systems. T.A. Barnes, D. Prendergast, P. Kent, J. Deslippe, O. Borodin, T.F. Miller
8:40 (209). Understanding the solid electrolyte-electrode interfaces all-solid-state Li-ion batteries: First-principles computation on thermodynamics and kinetics. Y. Mo
9:20 (210). Structures of THF-solvated sodium ions attracted to a charged molecular surface. Q. Wu
9:40 (211). Ultrafast photo-induced electric field at the surfaces of GaInP2 electrode. Y. Yang, M.C. Beard
10:00 (212). Electrochemical characterization of DNA-inspired organic nanowires. A.G. Wardrip, A. Mazaheripour, J. Jocson, A. Bartlett, N. Huesken, A. Burke, M.N. Dickson, A.A. Gorodetsky
10:20 (213). Unprecedented efficiency to control orbital energies a vibrational properties of single molecules embedded in electrochemical STM junctions. J. Baldea
10:40 INTERMISSION