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Natural Sciences

CHEMISTRY SEMINAR 291

Electronic Structures of Undercoordinated Mixed Oxide Clusters

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Date: 11/9/18

Time: 3:00 PM

Location: COB1 267

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ABSTRACT

Metal oxide clusters possess electronic, chemical, and physical properties that reflect those of defective metal oxide materials, the ubiquity of which in applications ranging from catalysis to spintronics makes it difficult to overstate their importance. Binary metal combinations add another dimension to enhancing and tuning the properties of oxides, which are additionally affected by manipulating the oxidation state. An exploration of the low-lying electronic and molecular structures of in a series of bimetallic metal oxide clusters using anion photodetachment spectroscopy reveals interesting phenomena, such as profoundly asymmetric oxidation states and ionic complex formation. Near-neighbor combinations, Coupling metals from different blocks transition metals, post transition metals, lanthanoids

