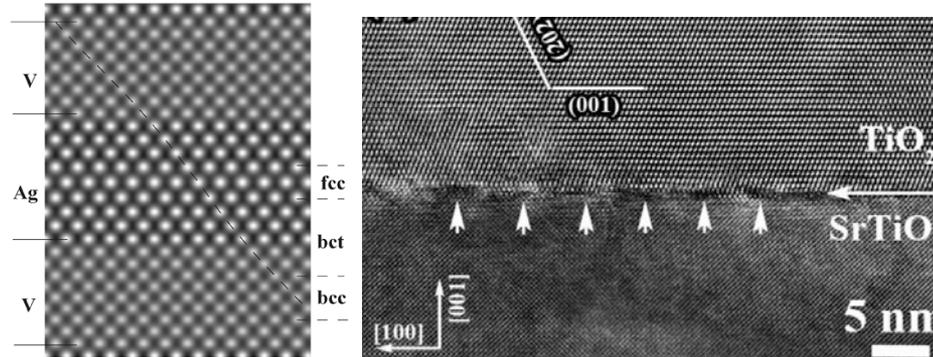
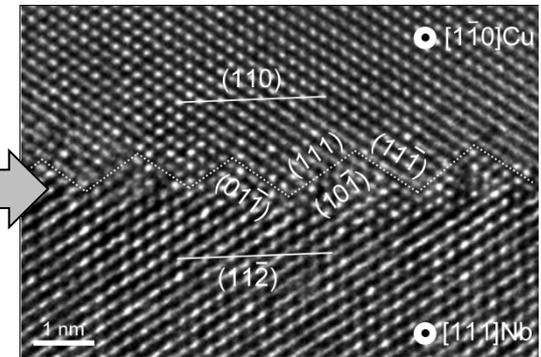
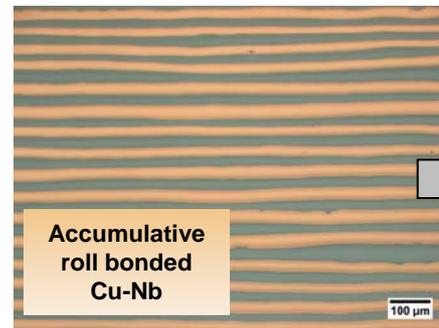


*The purpose of this EFRC is to understand, at the atomic scale, the interactions of defects at interfaces in materials subjected to extreme radiation doses and mechanical stress in order to synthesize new interface-dominated materials with tailored response under such extreme conditions.*



Atomic structures of interfaces from some of the model systems explored in this EFRC



**RESEARCH PLAN AND DIRECTIONS:**

CMIME is developing quantitative relationships between the atomic structure and energetics of interfaces and radiation or mechanical damage evolution in materials. These quantitative relations are *figures-of-merit* that can be used to rank different solid-solid interfaces in terms of the ability of an interface to control defect evolution, and thereby enable structural materials design for the next generation of nuclear power reactors, transportation, energy and defense applications.