

Abstract Submitted
for the TSF19 Meeting of
The American Physical Society

Domain-interface defects in crystals¹ CHRISTOPHER LAYDEN,
The University of Texas at Austin, BRANTON J. CAMPBELL, Brigham Young
University — Understanding the microscopic properties of multi-domain single-
phase crystals is important to manipulating their useful properties. When the for-
mation of an order parameter during a phase transition causes the crystal volume to
be partitioned amongst the domains of the order parameter, the geometric interface
between two or more such domains defines a type of topological defect. Because an
order parameter is characterized by symmetry loss, it is most naturally described in
terms of group-theoretical concepts. We demonstrate the use of group-theoretical
constructs to classify domain-interface defects in single-phase crystals and to simu-
late their formation below a phase transition.

¹Supported by National Science Foundation Grant #1757998

Christopher Layden
The University of Texas at Austin

Date submitted: 08 Oct 2019

Electronic form version 1.4