A comprehensive introduction to the fundamental aspects of surface chirality, covering both chemical and physical consequences

Written by a leading expert in the field, *Chirality at Solid Surfaces* offers an introduction to the concept of chirality at surfaces, starting from the foundation of chirality in isolated molecules and bulk systems. Fundamental properties such as surface energy and surface stress are then linked to a universal systematization of surface structure and symmetry. The author includes key examples of surface chemistry and physics, such as the interplay between adsorbate and substrate chirality, amplification of chirality, chiral catalysis, and the influence of surface chirality upon optical and magnetic phenomena. The book also explores the chirality apparent in the electronic structure of graphene, topological insulators and half-metallic materials.

This important reference:

- Provides an introduction to the fundamental concept of chirality
- Contains discussions of the chemical and physical consequences of surface chirality, including magnetic, electronic and optical properties in addition to molecular properties
- Offers an account of the most current research needed to support growth in the field
Written for surface scientists, professionals in the field, academics, and students, *Chirality at Solid Surfaces* is an essential resource that contains an overview of the fundamentals of surface chirality and reviews both the chemical and physical consequences.

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**ABOUT THE AUTHOR**

**Dr. Stephen J. Jenkins**, leads the Surface Science group in the Department of Chemistry at Cambridge University, where he directs both experimental and computational research on the physical and chemical properties of metal surfaces. His broad interest in the complexities of intermolecular interactions at surfaces finds particular focus in the expression of chirality in two dimensions, and its implications for asymmetric chemistry. He has worked in surface science for the past twenty-five years, and has published over 140 papers on a variety of topics within that field.

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