



香港城市大學
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Enhancing intuitive and discovery-oriented learning of atomic structures in different materials

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Abstract:

Learning about structure-property relationships forms the backbone of any materials science curriculum. In crystalline materials, which are a majority of materials used in modern technologies, this involves learning about simple patterns for atomic arrangements, which can be repeated infinitely in three dimensions following rules of symmetry. Although, we encounter many such rules of symmetry in everyday life, developing an intuitive understanding for symmetry inherent in atomic arrangements is not straightforward and requires visualization of the crystal structures from different perspectives. The project aims at creating teaching modules and tutorials using a crystallographic software, which will give students an intuitive learning experience for understanding and characterization of microscopic atomic arrangements in different kind of materials such as metals, ceramics and polymers.