Microsymposium

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Crystallography Education for Non-Science College Students

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New applications of crystallographic methods made it necessary to teach crystallography to students with limited background in physics and chemistry. In this case, classic approach to crystallography with mandatory study of space group and physics of X-ray diffraction is not feasible. We suggest an alternative direction: (1) introduction to experimental procedures and data collection for polycrystalline and (possibly) monocrystalline samples, (2) raw data processing and use of databases for identification of known crystalline materials. Instead of establishing a crystal structure of a new compound, our goal is limited to reliable identification of known one. With this approach, X-ray diffractometer appears to be one of many tools in analytical laboratory, and crystallographic data can be combined with results coming from multiple techniques such as Raman, IR, NMR, and mass-spectroscopy. Possible modifications of data collection and data processing procedures will be discussed. This presentation is based our experience with teaching various instrumental methods (including X-ray Crystallography) for Forensic and art conservation students at SUNY College at Buffalo.

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