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## Polycrystalline Materials—from Design to (Micro)Structural Characterization and Applications

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In synthetic processes that produce polycrystalline material, e.g., zeolites in solvothermal synthesis, or composite materials, such as cement or products from nature, e.g., shells, the use of powder X-ray diffraction is essential for the structural characterization of materials. In recent years, the development of computer programs for structure solution and analysis of powder diffraction data has made it possible to determine the crystal structure of polycrystalline materials, making powder X-ray diffraction an even more valuable method. In addition, powder X-ray diffraction data can also provide important information about the microstructural features, porosity and thermal expansion of the material. This Special Issue is dedicated to the use of powder X-ray diffraction data in the study of various polycrystalline materials to provide insight into the structure–property correlation and the evaluation of various properties, highlighting potential applications and performance of polycrystalline materials.

