crystal and non-crystalline (amorphous). All have periodicity ranging from perfect for a single-crystal to essentially non-existential (*sic*) for the amorphous state.' Why a polycrystalline material is a separate state is not clarified. 'Parallelipiped' is used in a discussion of what the authors refer to as 'planar lattices' that is so involved as to obscure their significance, though it is eventually defined correctly. There is a good discussion of Miller indices, with many examples, but there is recurring confusion between lattice points and atom site occupancy, *e.g.* 'The motif placed on (*sic*) each lattice point . . . '; a 'symmorphic space group exists when only a single atom or ion exists at the Bravais lattice points . . . '. Finally, to gladden the heart of every crystallographer, 'The actual atomic positions are obtainable from the analysis of the lattice of a crystal.' and 'Knowing the space group and equipoints . . . one can readily determine the crystal structure and arrangement of the atoms or ions in the unit cell or crystal.'. X-ray diffraction intensities and structure factors are never mentioned and although *International Tables for Crystallography* are mentioned once in a parenthesis in the text, there is no reference to them in the Reference section or in the index.

Ch. 3 deals with crystal structures and contains sections on space filling by atoms, simple binary ionic crystals, more complex structures with closest packing such as perovskites and spinels, and covalent crystals. It is a standard treatment of topics found in all books dealing with solid-state chemistry.

The concluding chapter deals extensively with polymorphism, thermodynamic discussion of phase changes, and various types of transformation with illustrative examples such as in quartz. There are also discussions of defects, substitution and silicate structures. But even here the very first equation of the chapter has 'The free energy change with temperature and pressure is given by:

$$\Delta G = \Delta E + P\Delta V - T\Delta S$$

. . . ', correct only when temperature and pressure are constant.

In summary, I cannot recommend this book in its present state. The large number of errors and misstatements disqualify it as a textbook and its price puts it totally out of reach of most students. The choice of topics for a course in materials engineering is a good one, however, and I hope that the authors will eventually revise their work so that it meets the goals they set themselves.

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