

C. HIGH-PRESSURE SYNTHESIS

A review of high-pressure synthesis, as illustrated by studies on compounds with the chemical formula ABX_3 or $(AX)_n(ABX_3)$, has been prepared for publication as a chapter entitled "High-Pressure Syntheses" in Preparative Methods in Solid State Chemistry, edited by P. Hagemuller (Academic Press, New York). The Introduction is given below.

"High-pressure synthesis has a practical as well as a scientific interest, since many high-pressure products are either stable or metastable at atmospheric pressure to temperatures well above 300°K. To illustrate the strategy and present-day techniques of high-pressure synthesis, we have chosen to review the high-pressure studies - through June 1970 - performed on compounds having the chemical formula ABX_3 or $(AX)_n(ABX_3)$, where cation A is always larger than cation B. At atmospheric pressure, these compounds crystallize in a variety of different structures, or do not form at all. High pressures stabilize preferentially the more dense phase. The most dense ABX_3 phase has the cubic-perovskite structure, and if the