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13. ABSTRACT

The microstructure and physical properties of dense oxides prepared at ultrahigh pressure and low temperature have been studied. Completely dense, transparent magnesium oxide has been prepared in submicron grain sizes with hardness values twice that of single crystal material and 30 percent to 50 percent greater than that of hot pressed material. A new modification of samorium oxyhydroxide has been found and characterized. X-ray determinations on the compressibility of alkali halides, RbCl, RbBr, are reported.

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Solid State Materials						
High Pressure						
Compressibility						
Sound Velocity						
Magnesium Oxide						
Nickel Oxides						
Chromium Oxide						
Aluminum Oxide						
Alkali Halides						
Samarium Oxides						
Samarium Oxyhydroxide						

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