

Contents

Historical Introduction	1
I. David Brown	
Bond Valence Theory	11
I. David Brown	
Using Bond Valences to Model the Structures of Ternary and Quaternary Oxides	59
Michael W. Lufaso and Patrick M. Woodward	
Practical Considerations in Determining Bond Valence Parameters	91
Stefan Adams	
Understanding Ionic Conduction and Energy Storage Materials with Bond-Valence-Based Methods	129
Stefan Adams and R. Prasada Rao	
Crystallization and Dissolution in Aqueous Solution: A Bond-Valence Approach	161
Frank C. Hawthorne and Michael Schindler	
Structure and Acidity in Aqueous Solutions and Oxide–Water Interfaces	191
Barry R. Bickmore	
Bonding at Oxide Surfaces	205
James A. Enterkin and Kenneth R. Poeppelmeier	

Bond Valences in Education	233
I. David Brown	
Appendix A: Glossary	251
Appendix B: Programs Using Bond Valences	255
Index	259



<http://www.springer.com/978-3-642-54967-0>

Bond Valences

Brown, I.D.; Poeppelmeier, K.R. (Eds.)

2014, VIII, 262 p. 110 illus., 63 illus. in color., Hardcover

ISBN: 978-3-642-54967-0