

Poster Presentation

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Volume I: X-ray Absorption Spectroscopy, International Tables

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Research in core physics and atomic and condensed matter science are increasingly relevant for diverse fields and are finding application in chemistry, engineering and biological sciences, linking to experimental research at synchrotrons, reactors and specialized facilities. A plethora of different approaches are popular in the literature and the Volume will hope to capture their greatest achievements and value by representation of all the leading groups from Europe, America, Asia, Australia plus elsewhere! Specifically, common elements and novel elements of XAFS, XANES, EXAFS, RIXS and diverse and related techniques will be represented, together with historical perspectives and latest developments. Over recent synchrotron experiments and publications methods have developed for measuring the absorption coefficient far from the edge and in the XAFS (X-ray absorption fine structure) region in neutral atoms, simple compounds and organometallics reaching accuracies of below 0.02%. This is 50–500 times more accurate than earlier methods, and 50–250 times more accurate than claimed uncertainties in theoretical computations for these systems. The data and methodology are useful for a wide range of applications, including major synchrotron and laboratory techniques relating to fine structure, near-edge analysis and standard crystallography. A comment on some key features of the new Volume in its infancy are presented, and contributions, support and suggestions will be warmly welcomed by all Editors.

[1] C. T. Chantler, Z. Barnea, C. Q. Tran, N. A. Rae, M. D. de Jonge, *A step toward standardization: Development of accurate measurements of X-ray absorption and fluorescence. Journal of Synchrotron Radiation* 19 (2012) 851-862, [2] J. L. Glover et al., *Phys. Rev. A* 78 (2008) 052902, [3] N. A. Rae et al., *Phys. Rev. A* 81 (2010) 022904, M. T. Islam et al., *Phys. Rev. A* 81 (2010) 022903

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