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Graphical Synopsis

This Special Issue appears in two parts:

Part I appears as Issue 2 and Part II as Issue 3, Volume 229 (2014)

Special Issue: High Pressure Crystallography

Edited by Ross Angel, Francesca Fabbiani and Pierre Bouvier

Part II

Preface

Original Papers

Christopher J. Ridley and
Konstantin V. Kamenev
**High pressure neutron and
X-ray diffraction at low
temperatures**

DOI 10.1515/zkri-2013-1673

Z. Kristallogr. 2014; 229(3): 171–199

Synopsis: Collecting diffraction data from samples under extreme conditions poses many experimental difficulties. This paper presents a review of instruments for low temperature, high pressure diffraction studies, discussing the benefits/limitations of each.

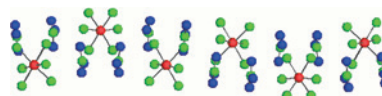


Christopher A. Cameron,
David R. Allan,
Konstantin V. Kamenev,
Stephen A. Moggach, Mark Murrie
and Simon Parsons
**A pressure-induced displacive phase
transition in Tris(ethylenediamine)
Nickel(II) nitrate**

DOI 10.1515/zkri-2013-1688

Z. Kristallogr. 2014; 229(3): 200–209

Synopsis: $[\text{Ni}(\text{en})_3][\text{NO}_3]_2$ undergoes a displacive phase transition between 0.82 and 0.87 GPa in which the unit cell *c*-axis triples in length. A similar transition has been previously observed at 108 K ambient pressure, but with a reduced displacement amplitude.

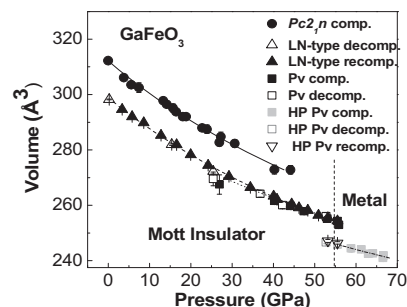


Gregory Kh. Rozenberg, Weiming Xu
and Moshe P. Pasternak
**The Mott insulators at extreme
conditions; structural consequences
of pressure-induced electronic
transitions**

DOI 10.1515/zkri-2013-1644

Z. Kristallogr. 2014; 229(3): 210–222

Synopsis: Pressure-induced electronic transitions and their structural consequences in Fe-based Mott insulators are the issue of this paper. We show the main scenarios which such strongly correlated systems may undergo on the way to a correlation breakdown.

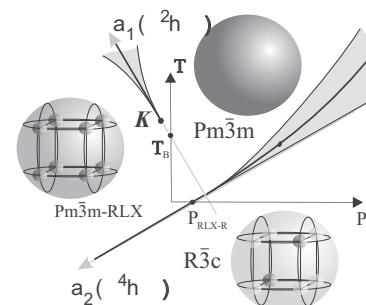


Dmitry Chernyshov, Vadim Dyadkin,
Vladimir Dmitriev and Alexey Bossak
**Pressure evolution of
 $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$ relaxor ferroelectric**

DOI 10.1515/zkri-2013-1642

Z. Kristallogr. 2014; 229(3): 223–229

Synopsis: The relaxor-specific diffuse scattering is observed for $p > 40$ kbar and parametrized with a model of polar correlations. The transition between non-polar and relaxor phases is considered as an iso-structural crossover.



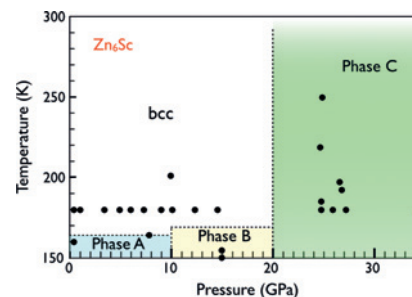
Tsunetomo Yamada,
Gaston Garbarino, Hiroyuki Takakura,
Cesar Pay Gómez, Ryuji Tamura and
Marc de Boissieu

**In-situ high-pressure X-ray
diffraction on the $\text{Zn}_6\text{Sc}^{1/1}$ periodic
cubic approximant to a quasicrystal**

DOI 10.1515/zkri-2013-1684

Z. Kristallogr. 2014; 229(3): 230–235

Synopsis: $\text{Zn}_6\text{Sc}^{1/1}$ cubic approximant to a quasicrystal has been studied in-situ at high pressures by X-ray diffraction. In the pressure range up to 35 GPa, two new superstructures were observed. The resulting pressure-temperature phase diagram is presented.



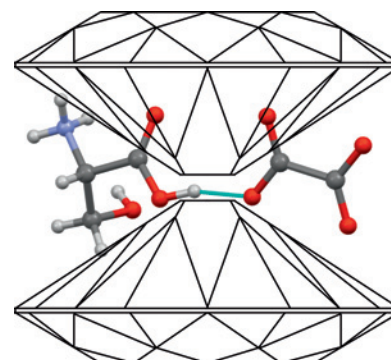
Elena V. Boldyreva

**Multicomponent organic crystals at
high pressure**

DOI 10.1515/zkri-2013-1699

Z. Kristallogr. 2014; 229(3): 236–245

Synopsis: What changes in response of a crystal structure to external stimuli, if several components form a co-crystal, a salt or a solvate?

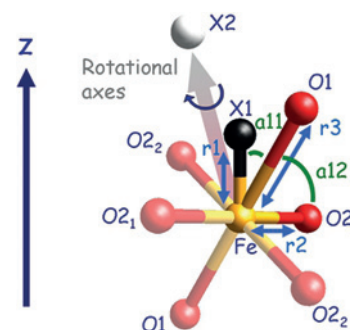


Martin Etter, Melanie Müller,
Michael Hanfland and
Robert E. Dinnebier
**Possibilities and limitations of
parametric Rietveld refinement on
high pressure data: The case study
of LaFeO_3**

DOI 10.1515/zkri-2013-1668

Z. Kristallogr. 2014; 229(3): 246–258

Synopsis: Four competitive crystallographic approaches are applied to high pressure powder diffraction data of the orthoferrite LaFeO_3 in order to investigate the possibilities and limitations of parametric Rietveld refinement.



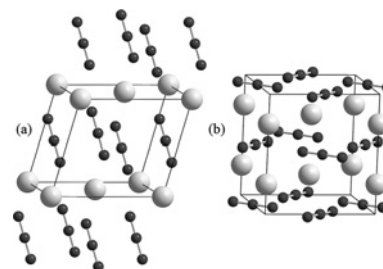
David I. A. Millar, Christopher Barry,
William G. Marshall and
Colin R. Pulham

**Structural characterization of sodium
azide and sodium bifluoride at high
pressures**

DOI 10.1515/zkri-2013-1660

Z. Kristallogr. 2014; 229(3): 259–275

Synopsis: High-pressure studies of NaN_3 and NaDF_2 show that both adopt the archetypal $I4/mcm$ structure shared by the heavier Group 1 azides and bifluorides. The transition in NaN_3 is sluggish at ambient temperature, but occurs readily at 3.33 GPa and 393 K.



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