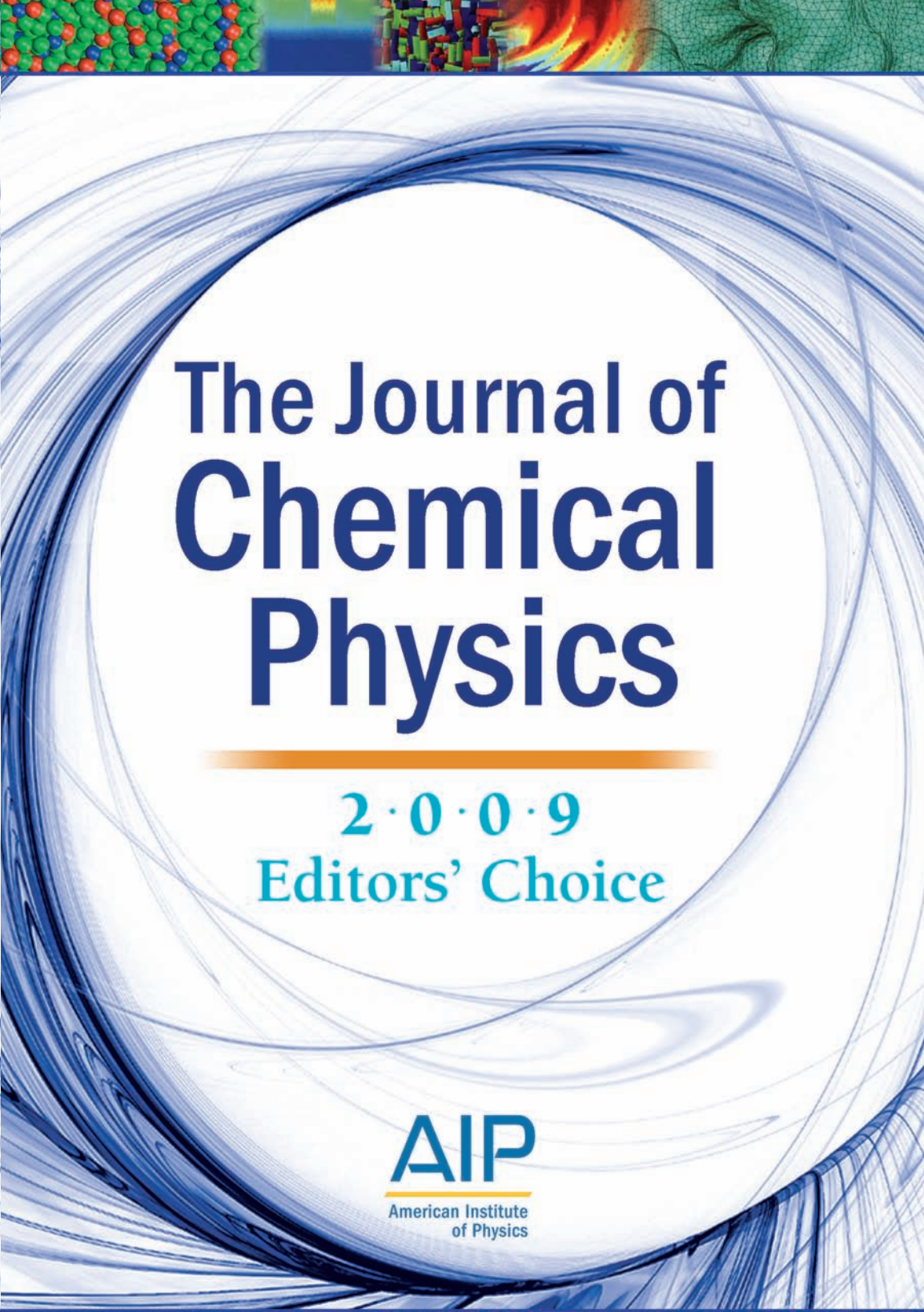
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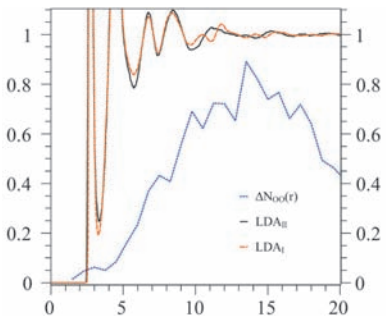
The Journal of Chemical Physics

2009 Editors' Choice

The Editors at *The Journal of Chemical Physics* facilitate publication of the most innovative and influential articles in the field of Chemical Physics each year. In the following collection, the Editors have selected a few of the many notable JCP articles published in 2009 that present ground-breaking research. This collection represents only a small fraction of the critical research published in JCP in 2009 and is representative of the broad cross-section of topics that the journal covers. These seminal articles are freely available online at jcp.aip.org until the end of August 2010.

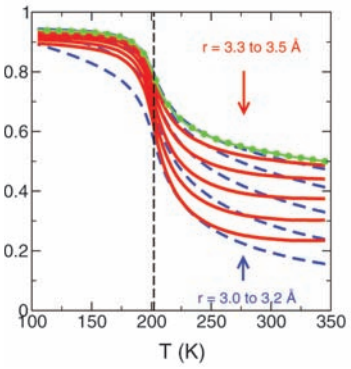
Relaxation effects in low density amorphous ice: Two distinct structural states observed by neutron diffraction

K. Winkel, D. T. Bowron, T. Loerting, E. Mayer, and **J. L. Finney**



The structure of low density amorphous ice, produced from high density amorphous ice by isobaric warming and very high density amporphous ice by isothermal decompression, are investigated via neutron diffraction with H/D isotopic substitution.

J. Chem. Phys. **130**, 204502 (2009)



Growing correlation length in supercooled water

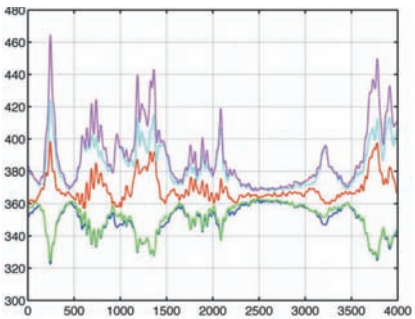
Emily B. Moore and **Valeria Molinero**

The evolution of the structure of water from the stable liquid to its glass, the low–density amorphous ice, at the critical cooling rate for vitrification is studied by molecular dynamics. A continuous transition to a tetrahedrally ordered low-density liquid is observed at 50 K below the temperature of maximum density and 25 K above a temperature of minimum density. The liquid-liquid transition temperature coincides with the maximum rate of change in the local structure.

J. Chem. Phys. **130**, 244505 (2009)

Ultrafast H_2 and D_2 rotational Raman responses in near critical CO_2: An experimental and theoretical study of anisotropic solvation dynamics

J. Peng, T. C. Castonguay, D. F. Coker, and **L. D. Ziegler**



The optical heterodyne detected anisotropic rotational Raman responses of H_2 and D_2 in a near critical CO_2 solution are reported.

J. Chem. Phys. **131**, 054501 (2009)

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