

1. Record Nr.	UNINA9910460494003321
Titolo	Water : fundamentals as the basis for understanding the environment and promoting technology // edited by P. G. Debenedetti and M. A. Ricci and F. Bruni
Pubbl/distr/stampa	Amsterdam, Netherlands : , : IOS Press, , 2015 ©2015
ISBN	1-61499-507-9
Descrizione fisica	1 online resource (263 p.)
Collana	International School of Physics 'Enrico Fermi' ; ; v.187
Disciplina	546.22
Soggetti	Water Water - Analysis Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	<p>""Title page""; ""Contents""; ""Preface""; ""Course group shot""; ""Experimental tests of the liquid-liquid phase transition hypothesis""; ""Water and its relatives: The stable, supercooled and particularly the stretched regimes""; ""Introduction""; ""Liquid domains and stable states""; ""Hydrogen bonds and anomalies of water""; ""High pressure""; ""Properties of supercooled water and solutions""; ""The second-critical-point hypothesis and the problem of its location""; ""Validity of the second-critical-point hypothesis""; ""Is water unique? Brothers and cousins""</p> <p>""Stretched water: negative-pressure investigations""""Hard data in the negative-pressure domain""; ""A modified van der Waals model for stretched liquids""; ""Concluding commentary""; ""Atmospheric water""; ""Introduction""; ""General structure of the Earth's atmosphere""; ""Condensed phases of water in the atmosphere""; ""Pure water phases""; ""Introduction to aerosol particles""; ""Phase transitions of water""; ""Cooling processes leading to supersaturation""; ""Gas-to-liquid transition: liquid-water droplets from water vapor""</p> <p>""Liquid-to-ice transition: ice crystals from supercooled water droplets""""Homogeneous ice nucleation in pure water""; ""Heterogeneous ice nucleation in pure water""; ""Implications: the</p>

Wegener-Bergeron-Findeisen process"; "Ice nucleation in haze particles"; "Homogeneous ice nucleation"; "Heterogeneous ice nucleation (immersion freezing)"; "Kinetic state diagram of atmospheric humidity"; "X-ray spectroscopy, scattering and simulation studies of instantaneous structures in water"; "The inhomogeneous structure hypothesis"; "Two local distinct structures"; "X-ray spectroscopy"

"Connecting XAS/XRS and XES"; "Peak shifts with temperature"; "Comparing effects of temperature with adding salts"; "Consistency with vibrational spectroscopy"; "The nature of the distorted species; understanding XAS/XRS"; "The pre-edge"; "The main edge"; "Interpretation of XAS/XRS: News-Anderson model"; "The inherent structure in MD simulations"; "Density fluctuations"; "Normal and anomalous contributions to κ_T "; "Compressibility in MD models"; "Density inhomogeneities and Small-Angle X-ray Scattering"; "Small-Angle X-ray Scattering (SAXS)"

"Qualitative understanding of SAXS data"; "The relation between correlation length and spatial extent"; "Anticorrelation between tetrahedrality and density"; "Wide-angle scattering and pair-correlation functions $g_{OO}(r)$ "; "Correlations at intermediate range (6-15 angstrom)"; "Temperature dependence of intermediate-range correlations"; "The first O-O peak"; "The HDL local structure"; "Concluding remarks"; "Spectroscopy and modeling of aqueous interfaces"; "SHG as a surface probe"; "Langmuir models for interfacial adsorption"; "The 1:1 exchange model"

"The effects of water exchange in the exchange model"
