PAUL SCHERRER INSTITUT

10th Summer School on Condensed Matter Research Zug, August 13 – 19, 2011

Abstract

Water: A case for neutrons and x-rays

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Water/ice is probably the most fundamental hydrogen-bonded system we know and exhibits an extraordinarily rich phase diagram. Since it occurs in large quantities on the Earth and the outer solar system, understanding of the physical properties of its phases is of prime importance for various fields of research. Its high-pressure properties reveal to be particularly interesting and have been investigated during the last decades up to pressures in the megabar range. The aim of this talk is to review water's phase diagram and illustrate what novel high-pressure neutron and x-ray experiments have contributed to our understanding of its structural and dynamical properties, including its properties under strong compression.