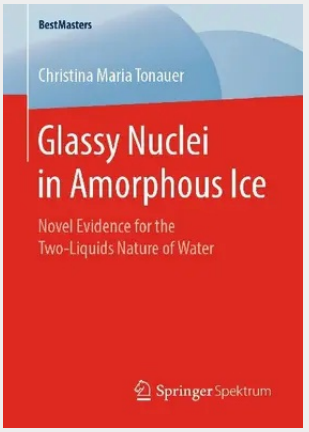
Tonauer

Glassy Nuclei in Amorphous Ice

Novel Evidence for the Two-Liquids Nature of Water

Christina Maria Tonauer finds novel evidence for the first-order nature of the transition between high-density amorphous ice (HDA) and low-density amorphous ice (LDA), supporting water's liquid-liquid transition scenarios. Pressure-dependent crystallisation experiments of differently prepared expanded high-density amorphous ice samples (eHDA) and subsequent powder x-ray diffraction experiments disclose nucleation of LDA domains in bulk HDA, a typical feature of a first-order transition. The comparison of pressure-dependent crystallisation temperatures of eHDA samples with LDA nuclei and bulk LDA allows the estimation of the Laplace pressure and the size of a LDA nucleus.

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