The advent of advanced instrumentation and measurement protocols makes it increasingly feasible to use X-ray and neutron scattering methods to investigate the structure of glass, liquid and amorphous materials. The pair distribution function (PDF) derived from quantum beam scattering data can reveal the structure not only at the atomic scale, but also at the nanoscale. The high-energy x-ray and neutron scattering techniques and recent developments of three containerless processing techniques, namely the aerodynamic, electrostatic, and acoustic levitations, in a wide temperature range, are introduced [1,2]. Furthermore, combinations of the aforementioned up-to-date experimental approaches with advanced computer simulations of levitated liquids [3,4] are reviewed.

References