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Self-confined dynamics in supercooled liquids during crystallization ALEJANDRO SANZ, KRISTINE NISS, Roskilde University, TIBERIO A. EZQUERRA, AURORA NOGALES, IEM-CSIC, MONICA JIMENEZ, INES PUENTE-ORENCH, ILL — Within the temperature window limited by the equilibrium melting temperature and the liquid to glass transition temperature, some glass forming systems tend to undergo crystallization. Unlike polymeric materials, low molecular weight liquids are able to self-organize forming fully crystalline structures, in which the dynamics of the remaining disordered regions may be examined along the whole range of crystalline volume fraction when real time studies are assessed. From the point of view of the molecular mobility, dielectric spectroscopy is a unique tool for unraveling the dynamic effects during crystallization. The aim of this contribution is to show a complete picture of the crystallization process in paradigmatic glass formers like 2-propanol, ethanol and glycerol. The interrelationships between structure and dynamics during crystallization will be discussed, paying special attention to the role played by the hydrogen-bonded network across the phase transformation. Novel results on crystallization of 2-propanol studied by real time quasielastic neutron scattering measurements will also be presented.

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