377
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Title:Time-resolved techniques for infrared and terahertz characterization with synchrotron radiation of evaporating systems
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Abstract:Several time dependent phenomena are driven by evaporation processes such as the evaporation-induced self-assembly which is used to prepare mesoporous ordered films through self-organization of templating micelles. Time-resolved analytical techniques are required for following in situ changes which are triggered by solvent evaporation. Infrared and terahertz spectroscopies, in particular, can be used to set-up specific in situ and time-resolved experiments for evaporating systems. These techniques can be applied to different evaporating solutions, from simple mono-component liquids such as water and ethanol, to the multi-component precursor sols for sol-gel and mesoporous films. In this article, we show some examples of applications of time-resolved techniques based on infrared and terahertz spectroscopy using conventional and synchrotron sources to study evaporating systems.
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