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专刊

Small angle X-ray scattering of the colloidal crystal

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摘要 The monodisperse polystyrene spheres are assembled into the colloidal crystal on the glass substrate by vertical deposition method, which is aimed at the so-called photonic crystal applications. The structural information of the bulk colloidal crystal is crucial for understanding the crystal growth mechanism and developing the various applications of colloidal crystal. Small-angle X-ray scattering (SAXS) technique was used to obtain the bulk structure of the colloidal crystal at Beamline 1W2A of BSRF. It is found that the SAXS pattern is sensitive to the relative orientation between the colloidal sample and the incident X-ray direction. The crystal lattice was well distinguished and determined by the SAXS data.

关键词 colloidal crystal, small angle X-ray scattering, photonic crystal
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