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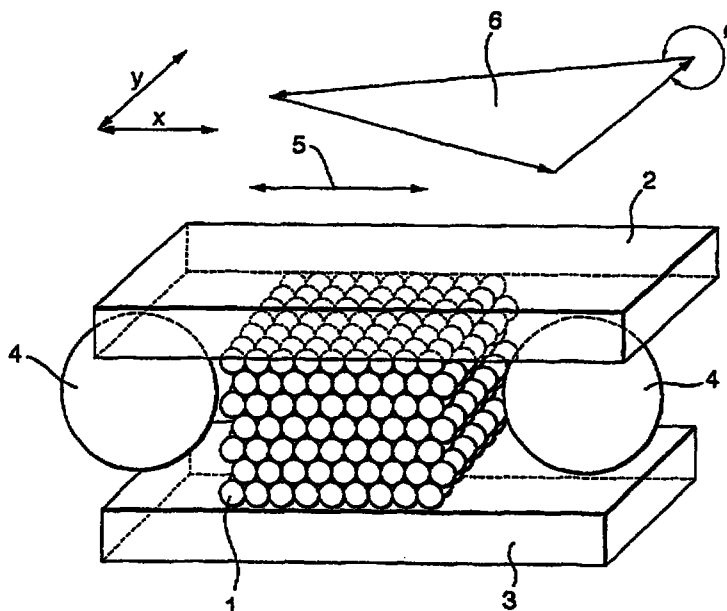
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(54) Title: COLLOIDAL PHOTONIC CRYSTALS



(57) Abstract: A method of growing robust large area colloidal photonic crystals and devices produced thereby. A suspension of monosized colloidal spheres (1) is subjected to a composite shear (6) by applying a sequential set of shearing forces. The crystalline layers within the colloid experience shearing forces with components in both x and y directions, forcing the colloid into a single face-centred-cubic structure in preference to a twinned face-centred-cubic structure. The method may also comprise the use of a dispersion medium which is capable of undergoing a controllable phase change from a liquid phase to a solid phase. The crystal may be fixed into a single face-centred cubic structure.



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