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Liquid crystals in random porous media: Disorder is stronger in low–density aerosils DIMA FELDMAN, Brown University, ROBERT PELCOVITS, Brown University — The nature of glass phases of liquid crystals in random porous media depends on the effective disorder strength. We study how the disorder strength depends on the density of the porous media and demonstrate that it can increase as the density decreases. We also show that the interaction of the liquid crystal with random porous media can destroy long–range order inside the pores. This work was supported in part by NSF DMR- 0131573.

[1] D. E. Feldman and R. A. Pelcovits, Phys. Rev. E **70**, 040702(R) (2004).

Dima Feldman
Brown University

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