

Dobnikar J. and Podgornik R. **Pseudo – Casimir force in confined nematic polymers**, Europhys. Lett., **53** (6) 735-741 (2001)

We investigate the pseudo-Casimir force in a slab of material composed of nematically ordered long polymers. We write the total mesoscopic energy together with the constraint connecting the local density and director fluctuations and evaluate the corresponding fluctuation free energy by standard methods. It leads to a pseudo-Casimir force of a different type than in the case of standard, short molecule nematic. We investigate its separation dependence and its magnitude and explicitly derive the relevant limiting cases.