

E. Virga: Curvature Potentials on Nematic Shells

Nematic shells are thin films of nematic liquid crystal deposited on rigid colloidal particles, which can be manufactured in different shapes and guises. The two-dimensional order tensor that describes the local organization of liquid crystal molecules, which tend to lie parallel to the colloids' surface, vanishes wherever no orientation is prevailing on average. The points where this takes place are called defects, as they lack order. The lecture will review recent work concerned with the interaction between defects and the underlying surface. In particular, arguments will be offered that identify appropriate geometric potentials, depending on the shell's shape, which either promote or hamper defects, attract or repel them.