

TOPOLOGICAL CHIRALITY

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ABSTRACT

Cholesterics are a type of liquid crystal with a chiral structure, or intrinsic handedness, which imbues them with a great richness of textures. Recently, methods of contact geometry have been introduced to characterise the properties of cholesterics and understand their distinctive geometry and topology [1-4]. I will describe our work on defects in cholesterics, covering point defects [2], a peculiar form of topological soliton [2] and disclination lines [3]. Time permitting, I will also describe briefly our work on chiral active liquid crystals, their vortex lattice states and odd elasticity [5].

The first part is joint work with Joseph Pollard, Gregor Posnjak, Simon Čopar and Igor Muševič; the last part is joint work with SJ Kole, Sriram Ramaswamy and Ananyo Maitra.

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