MS24-P104 - LATE | MAGNETIC TEXTURES IN NON-MAGNETIC SYSTEMS

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Magnetic textures have become of increasing interest in condensed matter physics due to the discovery of non-topologically trivial magnetic textures such as skyrmions. Experimentally observing new skyrmions proves a challenge as the chemical conditions needed lead to a small pool of available candidates. Here we look at the possibility of creating analogues of magnetic textures in non-magnetic materials by replacing the magnetic dipoles with non-magnetic quadrupoles and switching the magnetic field for a strain field. Through Monte Carlo simulations, we explore the possibility of producing analogues of magnetic textures by coupling these quadrupoles hosted within a chiral framework to a strain field and measuring the behaviour on varying strain and temperature. This opens up the field to new ways of creating non-topologically trivial textures that could potentially be less restrictive than chiral magnets.