

## **Dislocations in graphene**

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Recent experiments have considered motion of dislocations (e.g., pentagon-heptagon defects in a hexagonal lattice) in suspended graphene sheets and have also revealed that the strain and rotation fields about them are qualitatively different from those provided by conventional elasticity. In two-dimensional crystal membranes such as graphene, strain and defects strongly affect electronic properties and are the subject of intensive research. Modifications of elasticity allow us to understand defects at the core of dislocations and dislocation pairs, their stability, evolution and the associated elastic fields. When coupled to stochastically flipping spins, the governing equations produce small randomly oriented ripples with wavelengths below 25 nm similar to those observed in graphene sheets.