

Peierls transition with acoustic phonons and solitwistons in carbon nanotubes.

Figge MT, Mostovoy M, Knoester J (2001) Peierls transition with acoustic phonons and solitwistons in carbon nanotubes. *Phys Rev Lett* 86(20), 4572-4575.

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Abstract

We show that the Peierls instability can result in softening of acoustic phonons with small wave vectors and suggest that this unusual transition takes place in carbon nanotubes, resulting in a static twist deformation of the nanotube lattice. The topological excitations in the ordered phase are immobile and propagate only in pairs.

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