



Nuclear Theory

BCS-BEC crossover in spatially modulated fermionic condensates

[Armen Sedrakian](#)

(Submitted on 7 Jun 2011)

Several novel multi-component fermionic condensates show universal behavior under imbalance in the number of fermionic species. Here I discuss their phase structure, thermodynamics, and the transition from the weak (BCS) to strong (BEC) coupling regime. The inhomogeneous superconducting phases are illustrated on the example of the Fulde-Ferrell phase which appears in the weak coupling regime, at low temperatures and large asymmetries. The inhomogeneous phases persist through the crossover up to (and possibly beyond) the transition to the strong coupling regime.

Comments: 6 pages, 6 figures. to appear in Journal of Physics: Conference Series (JPCS); contribution to "Many-body correlations from dilute to dense nuclear systems (MBC2011)"

Subjects: **Nuclear Theory (nucl-th)**; Quantum Gases (cond-mat.quant-gas)

Journal reference: J.Phys.Conf.Ser.321:012028,2011

DOI: [10.1088/1742-6596/321/1/012028](https://doi.org/10.1088/1742-6596/321/1/012028)

Cite as: [arXiv:1106.1321 \[nucl-th\]](#)

(or [arXiv:1106.1321v1 \[nucl-th\]](#) for this version)

Submission history

From: Armen Sedrakian [[view email](#)]

[v1] Tue, 7 Jun 2011 11:43:26 GMT (268kb)

[Which authors of this paper are endorsers?](#)

Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

nucl-th

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1106](#)

Change to browse by:

[cond-mat](#)

[cond-mat.quant-gas](#)

References & Citations

- [INSPIRE HEP](#)
([refers to](#) | [cited by](#))
- [NASA ADS](#)

Bookmark([what is this?](#))

