

Computational Implementation and Data Availability

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BCS code

The implementation of BCS self-consistency with finite momentum was done by me from ground-up. The code and documentation is available at github.com/Ruberhauptmann/quantmet. The implementation relies on the work of many contributors of packages in Python's ecosystem, most important among them NumPy [1], SciPy [2], Matplotlib [3], Pandas [4, 5] and Parasweep [6].

Units:

$$E = t \quad (1.1)$$

$$l = a \quad (1.2)$$

$$\hbar = 1 \quad (1.3)$$

$$k_B = 1 \quad (1.4)$$

$$\mu_0 = 1 \quad (1.5)$$

$$\lambda_L = \sqrt{\frac{2}{3\sqrt{3}\xi j_{dp}}} \quad (1.6)$$

For units of q :

$$q = x|b_1| = x\frac{4\pi}{\sqrt{3}a} \quad (1.7)$$

$$\lambda_L = \frac{1}{q} = \frac{\sqrt{3}}{4x\pi}a \quad (1.8)$$

All the data and instructions on how to reproduce the calculations and analysis is available at osf.io/sajeh/. For reproducibility, Datalad [7] is used.

Plots: color sequences by Petroff [8].

DMFT

DMFT loop using TRIQS [9], it can also be found under osf.io/sajeh/.