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【516】The Symplectic Fermi Liquid and its realization in cold atomic systems

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We study a system of interacting fermions with large spin and SP(N) symmetry. From the Fermi liquid theory we find that the effective mass and inverse compressibility are always enhanced in the presence of interactions. Concerning magnetism, the Wilson ratio can be enhanced, indicating that the system can be made closer to a magnetic instability, in contrast to the SU(N) scenario. We conclude discussing what are the experimental routes to SP(N) symmetry within cold atoms and the exciting possibility to realize physics in higher dimensions in these systems.

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