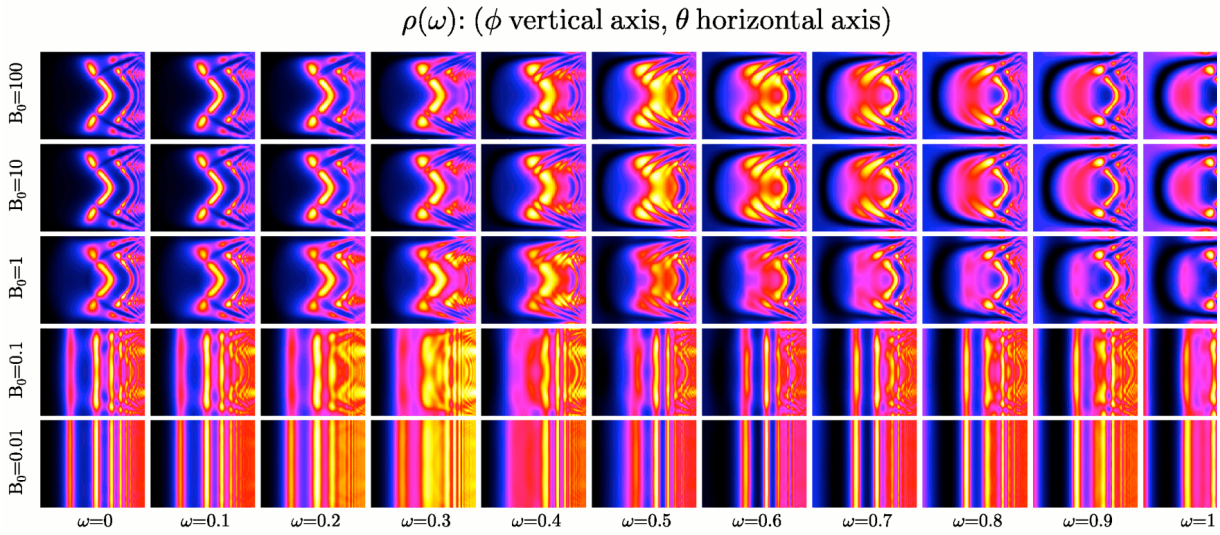
Magnetic breakdown and angle-dependent fermiology

Stephen J. Blundell[1], Andrzej Nowojewski[2], Paul A. Goddard[1]
[1]*Department of Physics, University of Oxford, UK*
[2] *Department of Physics, Harvard, USA*
Email: s.blundell@physics.ox.ac.uk

In a quasi-two-dimensional metal in which magnetic breakdown occurs, the angle-dependent magnetoresistance oscillations can be surprisingly subtle and complex to calculate. We have recently developed a method to calculate these oscillations that takes into account all the contributions from quasiparticles undergoing both magnetic breakdown and Bragg reflection at each junction [1]. This allows extremely efficient simulation of data that can be compared with recent experimental results and produces the conventional 1D and 2D oscillations in the limit of zero or complete magnetic breakdown. We have now generalised this approach to non-zero frequency in a manner that can be used to interpret the results of microwave experiments.



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[1] A. Nowojewski, P. A. Goddard and S. J. Blundell, Phys. Rev. B 77 (2008) 012402.