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# Symplectic normal forms and spectral asymptotics for magnetic fields in 3D

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## Résumé

I will present recent results giving precise eigenvalue asymptotics for the magnetic Laplacian for large magnetic fields (semiclassical limit), in the case of a confining, non-uniform field, in dimension 3. The essential ingredient is the symplectic geometry of the zero-energy manifold in the magnetic phase space. Under natural confinement assumptions for the magnetic field, one can perform three successive normal forms corresponding to three physical scales of oscillations.

This is joint work with B. Helffer, Y. Kordyukov and N. Raymond.

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