

Magnetization of Coupled Ultrathin Ferromagnetic Films

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Abstract: The magnetization of coupled ferromagnetic films is calculated by Green's function method. The coupling can either be ferromagnetic or antiferromagnetic. For the latter case, a concept of pseudo-spin is suggested to make calculation possible. A pseudo-spin is actually an anti-spin with its properties being analogue to other known anti-particles such as a hole. The decreasing of Curie point as the coupling strength decays is computed. It is noted that with the same strength, antiferromagnetic coupling has higher Curie point than ferromagnetic coupling.

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Key words: magnetization, pseudo-spin, coupled ferromagnetic films

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