

**Connection between Lifshitz Theory and Correlation Energy Theories from Solid State Physics  
and Quantum Chemistry: vdW-bound 2D Layers and Layered Solids as a Case Study**

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This talk will briefly discuss Lifshitz theory and then show how its zero-temperature, electromagnetically non-retarded limit is related to methods (e.g. Random Phase Approximation, Generalized Casimir-Polder Approximation) that are familiar in condensed matter physics and quantum chemistry. As an example, a discussion will be given of the cohesion of atomically thin sheets such as BN and graphene, and of layered solids made up of such sheets.