

## **Multiscale modeling directly linking the electronic structure level to the continuum level**

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### Abstract

This talk shows how to separate a problem into a "system" treated within Kohn-Sham density-functional theory and an "environment" treated as a continuum. We shall first prove a formal theorem showing that this may be done exactly. We shall then present applications to the problem of understanding chemical and surface phenomena in the presence of a liquid solvent.