CHIMONO - Nano Optics for Molecules on Chips

Project details

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Project description

This project aims at the demonstration of detailed control of molecules realized by means of integrated electric, magnetic, radio frequency, microwave and optical fields. The possibility of integrating all these components on a microchip and scaling down to the micro-meter scale and beyond will be combined with the ability of preparing and storing molecules in the electronic ground state in close proximity of the microchip surface or adsorbed on dielectric waveguides.

Such a combination will offer unrivalled possibilities for the transfer of information between molecular (and/or atomic) states and optical or microwave fields or charged currents. The devices we will realise in this project will be a paradigm for future integrated machines able to control the external and internal degrees of freedom of individual molecules.

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