



Physics Colloquium

Tuesday, 10 November 2020 at 17:15

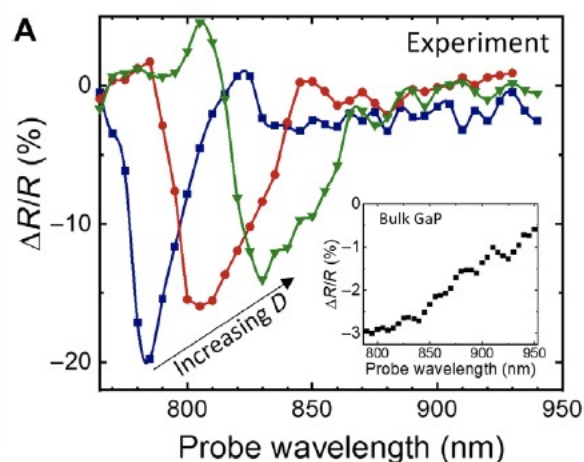
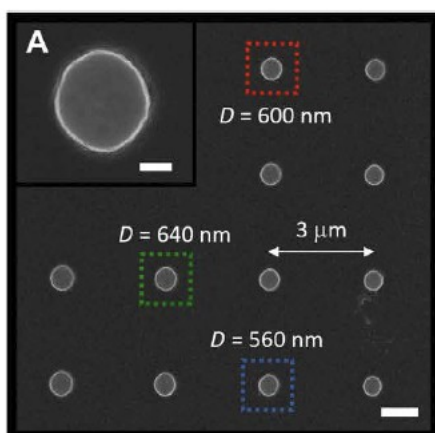
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Nanoantennas for light harvesting and energy conversion

Metallic and dielectric nanostructures provide distinct and unique means for shaping the electromagnetic near field, and for channelling radiation from the far field to the nanoscale. The associated electromagnetic field hot spots can be exploited for the enhancement of interactions between light and matter, most prominently for surface-enhanced spectroscopy and sensing, the boosting of non-linear interactions, and also for nanoscale spatial control over chemical reactions.

In my lecture I will approach plasmonic and dielectric nanoantennas from the viewpoint of being a means for energy conversion at the nanoscale. With example materials systems such as gold and silver (plasmonic) and gallium phosphide (dielectric) I will highlight applications such as non-linear optics, photon-phonon interactions for the launching of acoustic surface waves, and the plasmon-assisted triggering of redox reactions.



Reflectivity modulations of a single GaP nanodisk excited at its anapole excitation frequency (Science Advances 6:eabb3123 2020)

Online Colloquium broadcasted by BigBlueButton at

<https://meet.uni-leipzig.de/b/sch-hib-xbr-tdm>

