

Project Title:

Microwave-driven quantum dots

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This project will investigate electron spin resonance (ESR) effects in driven quantum dot systems. The basic aim is to find signatures in the electrical current which demonstrate ESR effects. To calculate the current the time dependence of the dot system has to be examined. Due to the complexity of the system the time dependence has to be determined numerically. The time evolution has to be performed for many different system parameters. A personal desktop computer cannot cope with this task. Furthermore, the theoretical results will be compared with recent experimental data and this comparison can be made possible only with the use of a supercomputer that will allow a broad regime of parameters to be explored quickly. So far no job has been executed because there was no special need.