

Invitation to IQST Seminar

on Thursday, April 4th, 2019, 10am
University of Stuttgart
Pfaffenwaldring 55, NWZI, Room V55.01

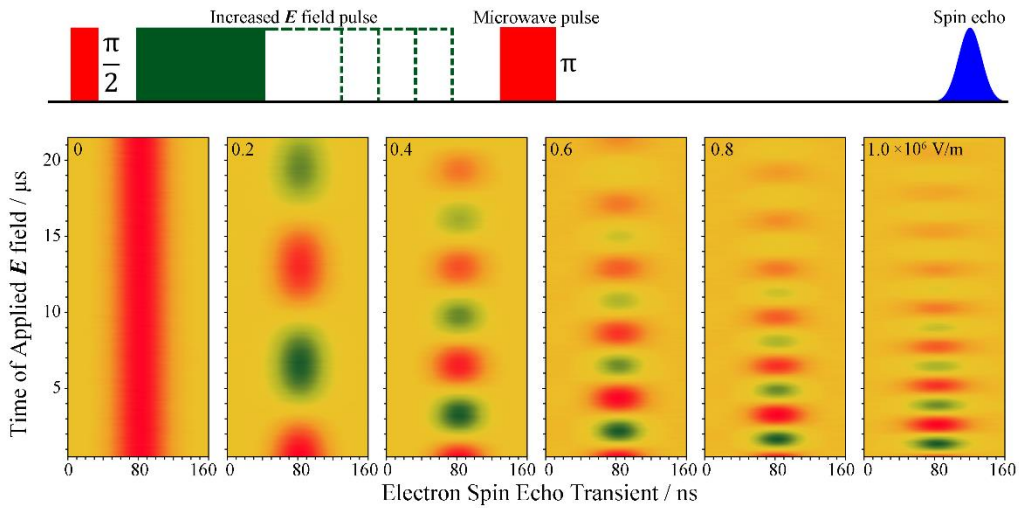


Dr. ShangDa Jiang

College of Chemistry and Molecular Engineering
Peking University, Beijing, P. R. China

Efficiency of the coherent control of spins by electric field

The realization of the molecular spintronics is based on the individual control of the magnetic sites. Among various strategies, using the electric field to control the molecular spin is the only approach to manipulate the spin locally. However, due to the weak coupling, the electric field effect on the magnetic site is normally very weak. In this talk I will discuss our recent results on coherent controlling the electron spin by electric field in Ce:YAG ensemble. Combining the pulsed electric field and the electron paramagnetic resonance technique, we demonstrate the linear response and decohering effect of the electric field on the magnetic sites. The angular-resolved experiments showed that the electric field effect is very anisotropic. Based on the extraction of the spin Hamiltonian parameters of the electric field terms, we find out the most efficient of way to manipulate the electron spin in Ce:YAG and conclude general rules.



Host: Prof. Dr. Joris van Slageren, Institut für Physikalische Chemie, Universität Stuttgart