Spin Tracking for Polarized Beam Experiments at the Jülich Cooler Synchrotron COSY

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At the Cooler Synchrotron COSY at Forschungszentrum Jülich, Germany, many polarized beam experiments with both deuteron and proton beams in the momentum range from 300 MeV/c to 3700 MeV/c are carried out. In the coming years it is planned to extend this program by a search for electric dipole moments in storage rings. This requires careful study of long-term behaviour of the polarization of the stored beams, as tool we foresee to use the COSY Infinity for tracking calculations. As first step we plan to describe spin flipping experiments which have been and will be carried out in the COSY Synchrotron Ring.