

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Dynamic nuclear polarization in self-assembled quantum dot by quadrupole effect BAO LIU, PING WANG, WEN YANG, Beijing Computational Science Research Center — We apply the recently developed theory of dynamic nuclear polarization to analyze a new nuclear polarization mechanism assisted by quadrupole interaction. This mechanism was proposed to explain a series of experimental observations in a self-assembled quantum dot. We find that although the steady state nuclear polarization agrees with previous works, the rate at which the nuclear spins are polarized is smaller by two orders of magnitude.

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Date submitted: 13 Nov 2014

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