

influence of external radiation on Josephson junction + nanomagnet system

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We investigate Kapitsa-like pendulum effects in the magnetic moment dynamics of a nanomagnet coupled to a Josephson junction under external periodic drive. Generated by the Josephson junction and external drive magnetic field play the role of the oscillating force of the suspension point in analogy with the Kapitsa pendulum. The high frequency oscillations change the position of stability of magnetic moment. The magnetic field of the quasiparticle current of the Josephson junction determines the frequency dependence of the magnetic moment's stable position. We obtain simple analytical formulas for the stable position of magnetic system both under external periodic drive and without it. The influence of external periodic drive on the voltage value of complete reorientation have been demonstrated.

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