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Qunatum oscillations of the mechanical forces in rotating molecular magnets GWANG-HEE KIM, Sejong University — We study a rotating nanomagnet that exhibits beat structure of the quantum forces. We show that such forces are originated from tunneling between two entangled states of spin and mechanical angular momentum. They can be observed in the presence of a static magnetic field gradient with ac magnetic field and disappear on increasing total angular momentum and parameter which depends on the moment of inertia and the tunnel splitting.

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