

**ON A NONLOCAL BIHARMONIC MEMS EQUATION WITH THE
NAVIER BOUNDARY CONDITION**

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ABSTRACT. We study a biharmonic nonlocal MEMS equation. It arises in the Micro-Electro Mechanical System(MEMS) devices. First we establish the local solution and extend it globally in time by the use of the energy. Next, we consider the dynamical properties. The dynamical system has an absorbing set and a global attractor. Finally we prove the convergence of the global solution to a stationary solution.

Key words and phrases. MEMS, nonlocal, biharmonic, global solution, dynamical system, omega limit set, absorbing set, global attractor.