

## DYNAMICS OF A PLANAR MODEL: MELNIKOV'S APPROACH, APPLICATIONS

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**Abstract.** *In this paper, we focus on the Hamiltonian, which gives rise to a specific dynamical system. We demonstrate some modules for investigating the dynamics of the proposed model. Some investigations in the light of Melnikov's approach is considered. A possible application of the Melnikov functions can find in modeling and synthesis of radiation antenna diagrams is also discussed.*

**Key words:** Modified planar model, Melnikov function, antenna factor.

**Mathematics Subject Classification:** 65L07, 34A34.

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