STABILITY OF UNIFORM ROTATIONS OF TWO RIGID BODIES

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The effect of a small dynamic insymmetry on the stability of uniform rotations around vertical axis of two rigid bodies is considered.

The system of the differential equations of motion with periodic coefficients is represented as matrix series in terms of powers of a small parameter of dynamic insymmetry.

This Hamilton system yields the reciprocal characteristic equation of monodromy matrix.

The expansions of the characteristic exponents in terms of powers of the dynamic insymmetry small parameter up to and including the first power is proved to be pure imaginary and mutually different.

It is also shown using V. A. Yakubovich and V. M.Starzhinski theorem that if dynamically symmetric rigid bodies satisfy the necessary stability conditions, these conditions are not violated under small dynamic insymmetry.

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