OSTROGRADSK'S ENERGY

Abstract. In this communication we present the Ostrogradsk's energy into scenario of Timoshenko type systems and we investigate properties concerning of the second high-frequency mode of vibrations predicted in the classical Timoshenko beam theory. In particular, we show that for these frequencies the Ostrogradsk's energy of the Timoshenko beam turns out to be negative. On the other hand, our aim is to show that dissipative mechanisms as well as truncated versions changes this scenario. More precisely, the Ostrogradsk's energy is positive under damping effects.

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