ENERGY REGIME OF A LINEAR, NON-AUTONOMOUS GENERAL TWO-PORT, SUPPLIED, SIMULTANEOUSLY, IN HARMONIC STEADY-STATE, AT THE GATES (*1*), (*1′*) AND (*2*), (*2′*), HAVING A NON-LINEAR INERTIAL COUPLING COMPLEX IMPEDANCE BETWEEN THESE GATES (I)

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Abstract. The differential equations satisfied by function $X_3(R_3)$, with $\underline{Z}_3 = R_3 + jX_3$ – the coupling complex impedance (non-linear inertial) between the gates (*1*), (*1'*) and (*2*), (*2'*) of a linear, non-autonomous, general two-port, in harmonic steady-state, are established and integrated, when the two-port, supplied simultaneously at the gates (*1*), (*1'*) and (*2*), (*2'*), with harmonic voltages having the same frequency, either transfers to coupling complex impedance an extreme value of the active power or transfers to this impedance the active power with an extreme value of the efficiency.

Key words: linear, non-autonomous general two-ports; non-linear inertial coupling impedance; simultaneously supplied two-ports at the gates (*1*), (*1'*) and (*2*), (*2'*); extreme values of transferred active power or of transferred active power's efficiency.