

Systems of Ordinary Differential Equations > Nonlinear Systems of Three and More Equations

11.
$$x_{tt}'' = cF_2 - bF_3$$
, $y_{tt}'' = aF_3 - cF_1$, $z_{tt}'' = bF_1 - aF_2$, where $F_n = F_n(x, y, z, t, x_t', y_t', z_t')$. Integral:

$$ax + by + cz = C_1t + C_2,$$

where C_1 and C_2 are arbitrary constants.

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http://eqworld.ipmnet.ru/en/solutions/sysode/sode0411.pdf