

## Mathematics &gt; Differential Geometry

# On the 7th order ODE with submaximal symmetry

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We find a general solution to the unique 7th order ODE admitting ten dimensional group of contact symmetries. The integral curves of this ODE are rational contact curves in  $\mathbb{P}^3$  which give rise to rational plane curves of degree six. The moduli space of these curves is a real form of the homogeneous space  $\mathrm{Sp}(4)/\mathrm{SL}(2)$ .

Comments: 5 pages, 2 figures, minor corrections

Subjects: **Differential Geometry (math.DG)**; Mathematical Physics (math-ph); Algebraic Geometry (math.AG); Exactly Solvable and Integrable Systems (nlin.SI)

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