

Tsukamoto, Ichiro

Asymptotic behaviour of positive solutions of $x'' = t^{\alpha\lambda-2}x^{1+\alpha}$ where $\alpha = \lambda_0$ and $\lambda > 0$.
(English) [Zbl 1353.34055](#)

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Summary: Through analytical expressions, we state the asymptotic behaviour of the positive solutions of the differential equation denoted in the title, depending on the orbit of the two-dimensional autonomous system into which this differential equation is transformed. We treat the case when this autonomous system has an improper node as its critical point.

MSC:

34D05 Asymptotic properties of solutions to ordinary differential equations

34C11 Growth and boundedness of solutions to ordinary differential equations

Keywords:

asymptotic behaviour; analytical expression; initial value problem; first-order rational differential equation; two-dimensional autonomous system