A discussion on the approximate solutions of first order systems of non-linear ordinary equations.

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Abstract

We develop a one step matrix method in order to obtain approximate solutions of first order non-linear systems and non-linear ordinary differential equations, reducible to first order systems. We find a sequence of such solutions that converge to the exact solution. We apply the method to different well known examples and check its precision, in terms of local error, comparing it with the error produced by other methods. The advantage of the method over others widely used lies on the great simplicity of its implementation.
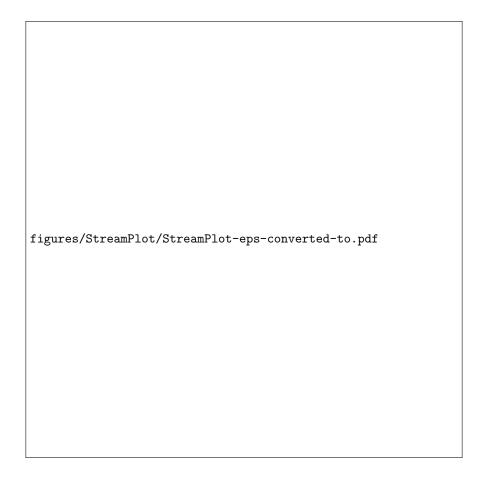
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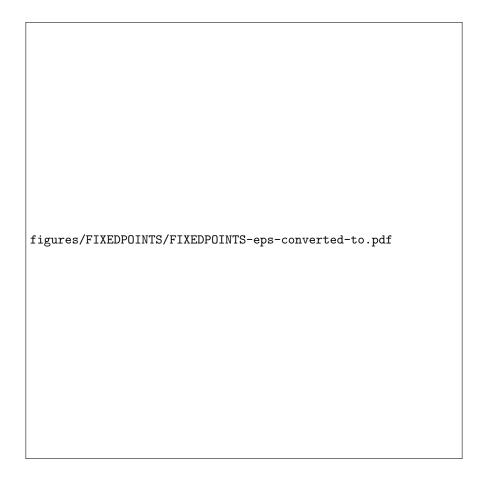
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