Hermite integrator for N-body problems

Using Hermite solver for 2- and 3- body problems

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Concept

Predictor-corrector integrator with sceme:
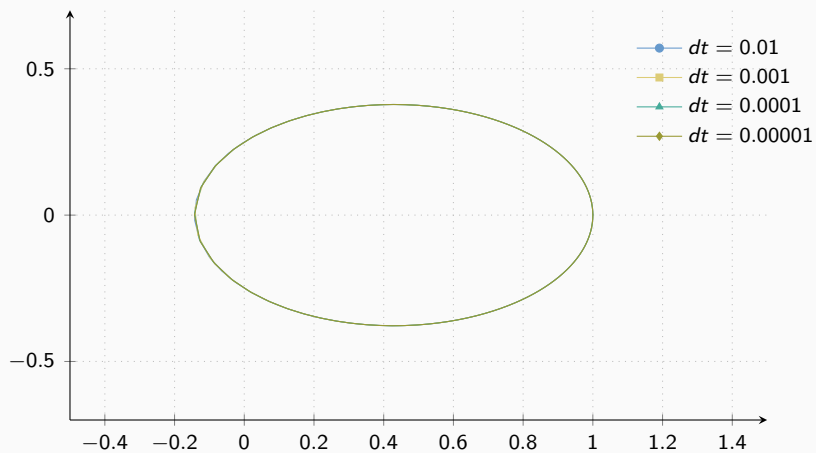
Numerical results

Numerical results

Table 1: Second order method precision

dt	x on t=T
0.01	0.9999039650548958695622039
0.001	0.9999994995858415903967251
0.0001	0.9999999999999962284827070
0.00001	0.9999999999999999999622911
exact	1.0

Second order

Table 2: Second order method precision

dt	v on t=T
0.01	0.4999958427950561553333393
0.001	0.4999997501670791203050699
0.0001	0.5000000000000019454031067
0.00001	0.500000000000000000194509
exact	0.5