

Numerically Modeling Gravitationally Bound Systems

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Abstract

1 Introduction

2 Differential Equations

3 Algorithms

3.1 RK4

3.2 Verlet

4 The Solar System

4.1 Earth-Sun only

4.2 Escape Velocity

4.3 Three Body System: Stationary Sun

4.4 Onwards: 3 Dynamic Bodies and All Major Bodies

5 Conclusion

Appendix A

Additional Plots

Bibliography

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