



UiO : **Department of Physics**
University of Oslo

FYS4150

Erik Skaar
Thomas Storaas



Innhold

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Abstract

1 Introduction

2 Theory

2.1 Gravitation

2.2 Units

2.3 Numerical methods

2.3.1 Forward Euler

2.3.2 Velocity-Verlet

3 Method

$2458045.500000000 = A.D.2017-Oct-1900 : 00 : 00.0000$
 $TDBX = 2.213296131976958E-03$
 $Y = 5.740795718142255E-03$
 $Z = -1.300333836064062E-04$
 $VX = -5.236918819978495E-06$
 $VY = 5.487345385589584E-06$
 $VZ = 1.229796132639033E-07$

4 Result

4.1 Earth-Sun system

4.1.1 Stability

4.1.2 Conserved quantities

4.1.3 Escape velocity

4.2 Three body system

4.2.1 Fixed mass for jupitur

4.2.2 Varying mass for jupitur

4.3 Solar system

4.3.1 Three planets and all moving

4.3.2 Solar system all moving

4.4 The perihelion precession of Mercury

4.4.1 missing this part

5 Discussion

6 Conclusion

7 Appendix