

Project 1 FYS3150

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I. INTRODUCTION

One of the most versatile tools in modern science is numerical integration, thus it is important to understand its limits. In this paper we have performed numerical integration of a second order differential equation. This was

done by discretizing the differential equation, and formulating it as a matrix-vector equation. The matrix-vector equation was then solved using both a general, and specialized Thomas algorithm, as well as LU-decomposition.

II. FORMALISM

III. IMPLEMENTATION

IV. ANALYSIS

V. CONCLUSION

Appendix A: Source code

All code for this report was written in C++, and the complete set of files can be found at https://github.com/FunkMarvel/FYS3150_Project_1.git