Master's Thesis

Nita Nagdewate

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Abstract

In this presentation, application of the Fast Multipole method (FMM)to the solution of the Helmholtz equation in three dimensions is examined. The objective of this effort is the development of scalable approaches that can be implemented to the high-performance general purpose graphics processors. In this regard reduction in algorithmic complexity studied.The translation rotation operation will be examined in detail.

1 Introduction

1.1 Green's function

The wave equation in time domain is given by

$$\delta^2 \tag{1}$$