

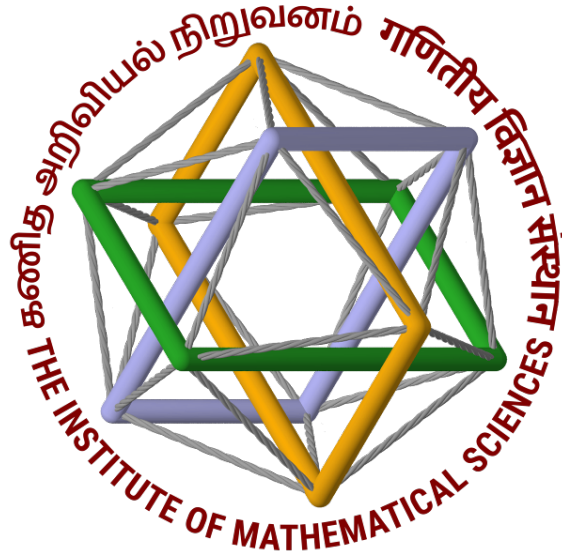
Project Report

Padé Approximation Methods

A R Bathri Narayanan

UM DAE Centre for Excellence in Basic Sciences

Report presented for the
Summer Student Programme, IMSc



Department of Theoretical Physics
The Institute of Mathematical Sciences
Chennai ,TN ,India
May 30, 2024

Contents

1	Complex analysis and Root Finding Algorithms	2
----------	---	----------

Chapter 1

Complex analysis and Root Finding Algorithms

Branch cuts, Riemann sheets and program for the same

Newton-Raphson Method and code

[2] [1]

Müller Method and code

Bibliography

- [1] H.M. Antia. *Numerical methods for scientists and Engineers*. Hindustan Book Agency, Gurgaon.
- [2] Sebastian Mizera. Physics of the analytic s-matrix. *Physics Reports*, 1047:1–92, January 2024.