Report .1

Theta functions, Kronecker functions and bilinear relations

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1 Introduction & Background

2 Abel's Map

2.1 Holomorphic differentials

link to parts of proof in A6, A7, and A8

2.2 Definition of Abel's map

very similar to presentation

3 Theta functions

3.1 Definition on $\mathbb{C}^g$

very similar to presentation

3.2 Definition on compact Riemann surface

very similar to presentation

3.3 Odd theta functions and zeros

connect to odd theta functions in B10

extend beyond presentation by pointing out that only g zeros are on compact riemann surface

3.4 Decomposition of functions

consider talk A5 (eqn 25, 40)

link to talk A9 with divisors

4 Kronecker function

4.1 Definition and properties of the Kronecker function

4.2 Decomposition for differentials

4.3 Application

5 Schottky Covers

5.1 Definition of the Schottky group and cover

5.2 Differentials and Abel's map

5.3 Attepmts at a Kronecker function

[Cha22] [Ber10]

Bibliography

Appendix A

Properties of the Theta function:

Periodicity on $\mathbb{C}^g$ and compact Riemann surface Properties of theta function with characteristics