

Contents

Introduction	1
Notation	17
Chapter 1. Distinguished vectors in local representations	21
1.1. Parabolic induction to $\mathrm{GU}(2, 2)$	21
1.2. Distinguished vectors: non-archimedean case	23
1.3. Distinguished vectors: archimedean case	26
1.4. Intertwining operator: non-archimedean case	35
1.5. Intertwining operator: archimedean case	39
Chapter 2. Global L -functions for $\mathrm{GSp}_4 \times \mathrm{GL}_2$	45
2.1. Bessel models for GSp_4	45
2.2. Local zeta integrals	48
2.3. The global integral representation	54
2.4. The functional equation	59
Chapter 3. The pullback formula	63
3.1. Local sections: non-archimedean case	63
3.2. The local pullback formula: non-archimedean case	65
3.3. Local sections: archimedean case	70
3.4. The local pullback formula: archimedean case	73
3.5. The global pullback formula	75
3.6. The second global integral representation	78
Chapter 4. Holomorphy of global L -functions for $\mathrm{GSp}_4 \times \mathrm{GL}_2$	81
4.1. Preliminary considerations	81
4.2. Eisenstein series and Weil representations	82
4.3. The Siegel-Weil formula and the proof of entireness	86
Chapter 5. Applications	89
5.1. The transfer theorems	89
5.2. Analytic properties of L -functions	96
5.3. Critical values of L -functions	99
Bibliography	103