
**Weyl Group Multiple Dirichlet
Series: Type A Combinatorial
Theory**

**Ben Brubaker, Daniel Bump, and
Solomon Friedberg**

PRINCETON UNIVERSITY PRESS
PRINCETON AND OXFORD
2011

Contents

Preface	vii
1. Type A Weyl Group Multiple Dirichlet Series	1
2. Crystals and Gelfand-Tsetlin Patterns	10
3. Duality	22
4. Whittaker Functions	26
5. Tokuyama's Theorem	31
6. Outline of the Proof	36
7. Statement B Implies Statement A	51
8. Cartoons	54
9. Snakes	58
10. Noncritical Resonances	64
11. Types	67
12. Knowability	74
13. The Reduction to Statement D	77
14. Statement E Implies Statement D	87
15. Evaluation of Λ_Γ and Λ_Δ , and Statement G	89
16. Concurrence	96
17. Conclusion of the Proof	104
18. Statement B and Crystal Graphs	108
19. Statement B and the Yang-Baxter Equation	115
20. Crystals and p -adic Integration	132
Bibliography	143
Notation	149
Index	155