Atlas Workshop, 2013
Background reading list

June 14, 2013

We recommend all attendees read some or all of the references before the workshop.

1. David A. Vogan, Jr. *Unitary representations of reductive Lie groups*, volume 118 of *Annals of Mathematics Studies* (the orange book) Princeton University Press, Princeton, NJ, 1987. The Introduction is a good survey. Chapter 1 is a good exposition of the representation theory of compact groups. (In a first reading assume the group is connected, and skim the discussion about large and small Cartan subgroups.) Read chapter 2 for the passage from the analytic theory of group representations, to the algebraic one of Harish-Chandra modules.

2. David A. Vogan, Jr. *Representations of real reductive Lie groups*, volume 15 of *Progress in Mathematics* (the green book) Birkhäuser Boston, Mass., 1981. Chapter 0 is a somewhat more formal introduction to the material in the orange book. We'll be spending a lot of time on $SL(2, \mathbb{R})$, roughly following Chapter 1.

3. J. Adams, Peter Trapa, Marc van Leeuwen, and David A. Jr. Vogan. *Unitary dual of real reductive groups.* preprint, arXiv. Chapters 1-6 are a more or less self-contained treatment of the Langlands classification, to be discussed in Adams's lectures. Trapa will be discussing Jantzen filtrations, which are discussed in Sections 14 and 15. Vogan will be discussing the main result of this paper, which is an algorithm for computing Hermitian forms, and determine the unitary dual.

4. David A. Jr. Vogan. *Infinite Dimensional Representations of Real Reductive Groups*, (on the conference web site) is an excellent survey article.

5. J. Adams. *The Langlands Classification.* We strongly encourage all attendees to read these notes, found on the conference web site, and do all of the exercises.