

Joe Wolf

Flag Manifolds and Representations of Semisimple Lie Groups.

Lectures for the Winter School

Homogeneous Spaces and Geometric Representation Theory

February 27 – March 2, 2012

Ruhr University Bochum

Lecture 1: The Bott-Borel-Weil theorem, complex flag manifolds, real group orbits, the cycle space.

Lecture 2: Discrete series representations and open real group orbits, principal series representations and the closed orbit, Harish-Chandra's Plancherel formula, the other tempered series and partially complex orbits.

Lecture 3: Other flag manifold realizations of representations: indefinite metric theories, geometric quantization for admissible representations, double fibration transform theories.