

Small representations of finite groups

Roger Howe

September 10, 2015

Finite group theorists have established many formulas that express interesting properties of a finite group in terms of sums of characters of the group. An obstacle to applying these formulas is lack of control over the dimensions of representations of the group. In particular, the representations of small dimension tend to contribute the largest terms to these sums, so a systematic knowledge of these small representations could lead to proofs of some of these facts. This talk will discuss a conjectural method for constructing the small representations of finite classical groups. The method is closely related to the theory of theta series, and has an analog over local fields.