

Abstract

On regular characters of classical groups

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In the case of $G = \mathrm{GL}_n(\mathfrak{o})$, regular characters form a considerable subset of the set of irreducible complex continuous characters of G and the largest class currently amenable to explicit construction. The definition of regular characters goes back to Shintani and Hill, who proved a variety of favourable properties of such characters and completed their construction in several key cases. Recently, the construction of all regular characters of $\mathrm{GL}_n(\mathfrak{o})$ was completed by Stasinski and Stevens and, independently, by Krakowski, Onn and Singla, who also computed the regular representation zeta function of the special and unitary groups over \mathfrak{o} , i.e. the Dirichlet series $\zeta^{\mathrm{reg}}(s) = \sum \chi(1)^{-s}$, where χ ranges over all regular characters of G .

In this talk, we will present the definition and construction of regular characters of reductive groups over \mathfrak{o} , and report on new results for the case $G = \mathbf{G}(\mathfrak{o})$, where \mathbf{G} is a classical group.