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Ran Cui* (cuiran@math.umd.edu), 4176 Campus Dr., Mathematics Building, College Park, MD 20742. *The Real-Quaternionic Indicator*. Preliminary report.

The Frobenius-Schur indicator, also called the ε indicator, tells if a self-dual representation is orthogonal or symplectic. The real-quaternionic indicator, also called the δ indicator, indicates if a self-conjugate representation is of real or quaternionic type. It is interesting to compute the ε and δ indicators. The computation of the ε indicator is relatively straightforward. In fact, it has been proven in large generality that $\varepsilon(\pi)$ is given by a particular value of the central character. We would like a similar result for the δ indicator.

When G is compact, $\delta(\pi)$ and $\varepsilon(\pi)$ coincide. In general, they are not necessarily the same. In this talk, we will discuss a relation between the two indicators when G is semi-simple. We will also give a formula for $\delta(\pi)$ in terms of the central character when π is finite dimensional. The main tool we are using is the c -invariant Hermitian form introduced in "Unitary Representation of Real Reductive Groups" by Adams, van Leeuwen, Trapa and Vogan. (Received September 23, 2015)