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Jordan Alexander* (jordan_alexander@baylor.edu). *Hilbert series and quasi-dominant weights*. Preliminary report.

The notion of quasi-dominance was introduced by Enright and Willenbring as a class of weights whose corresponding unitarizable highest weight modules, when they exist, have strikingly elegant Hilbert series. Specifically, the Hilbert series $H_L(t)$ of the unitarizable highest weight module $L(\lambda)$, with λ quasi-dominant, is given by

$$H_L(t) = R \cdot \frac{H_E(t)}{(1-t)^D}$$

where E is an associated finite-dimensional simple module, R is a rational number, and D is the Gelfand-Kirillov dimension of L . When L is a Wallach representations in the dual pair setting, R is equal to one. This talk centers on two results: a partial characterization of the quasi-dominant weights and the discovery of (other) infinite families of quasi-dominant weights that give $R = 1$. (Received February 08, 2014)