1070-11-177 **David E. Rohrlich*** (der@bu.edu), Department of Mathematics and Statistics, Boston University, Boston, MA 02215. *Counting Artin representations.*

Our motivating question is whether self-dual L-functions – those for which the functional equation relates the L-function to itself – have density zero among all L-functions. In the case of Artin L-functions, a theorem of R. Greenberg and of Anderson, Blasius, Coleman, and Zettler makes it possible to formulate the question precisely. Fix an integer $n \geqslant 1$ and let $\vartheta(x)$ be the number of isomorphism classes of n-dimensional complex representations of $\mathrm{Gal}(\overline{\mathbb{Q}}/\mathbb{Q})$ with conductor $\leqslant x$. Let $\vartheta^{\mathrm{sd}}(x)$ be the number of such classes that are self-dual. The problem is then to determine whether $\lim_{x\to\infty} \vartheta^{\mathrm{sd}}(x)/\vartheta(x) = 0$. If $n = 1$ then it is easy to see that $\vartheta(x) \sim (36/\pi^4)x^2$ and $\vartheta^{\mathrm{sd}}(x) \sim (6/\pi^2)x$, whence the answer is affirmative in this case. We shall focus on the case $n = 2$, where the work of Serre and of Duke bounding the dimension of spaces of modular forms of weight one gives a good idea of what to expect. (Received February 09, 2011)