1151-20-270 **Stephen Trefethen*** (sjtrefethen@wm.edu). *Frobenius–Schur indicators of finite exceptional groups.*

Let G be a finite group. The *Frobenius–Schur indicator* of an irreducible character χ, denoted $\varepsilon(\chi)$, is defined as $\varepsilon(\chi) = \frac{1}{|G|}\sum_{g\in G}\chi(g^2)$. It is known that $\varepsilon(\chi) = 1, -1$, or 0, where $\varepsilon(\chi) = 0$ precisely when χ is not real-valued. When χ is real-valued, $\varepsilon(\chi) = 1$ if χ is afforded by a representation that may be defined over the real numbers, otherwise $\varepsilon(\chi) = -1$. In this talk we outline a computational method used to prove that the exceptional groups $F_4(q)$, $E_7(q)_{\mathrm{ad}}$, and $E_8(q)$ have no irreducible characters with Frobenius–Schur indicator -1. (Received August 20, 2019)