Let $G$ be a finite group. The \textit{Frobenius–Schur indicator} of an irreducible character $\chi$, denoted $\varepsilon(\chi)$, is defined as $\varepsilon(\chi) = \frac{1}{|G|} \sum_{g \in G} \chi(g^2)$. It is known that $\varepsilon(\chi) = 1, -1, \text{ or } 0$, where $\varepsilon(\chi) = 0$ precisely when $\chi$ is not real-valued. When $\chi$ is real-valued, $\varepsilon(\chi) = 1$ if $\chi$ 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 $F_4(q)$, $E_7(q)_{ad}$, and $E_8(q)$ have no irreducible characters with Frobenius–Schur indicator $-1$. (Received August 20, 2019)