Sneha Chaubey* (chaubey2@illinois.edu), Amita Malik, Nicolas Robles and Alexandru Zaharescu. Zeros of normalized combinations of the Riemann Xi function on the critical line.

We consider functions of the form $F_{\vec{c},a,T}(s) = \sum_{j=0}^{M} c_j \xi^{(a+2j)}(s)$, with $L = \log \frac{T}{2\pi}$ and $c_j$ real constants satisfying certain constraint. We show that as $T \to \infty$, the proportion of zeros of $F_{\vec{c},a,T}(s)$ on the critical line $\text{Re}(s) = 1/2$ tends to 1, at a rate depending on $a$ but not on the choice of the $c_j$’s. (Received September 13, 2016)