ABSTRACT

In 1927 Pólya proved that the Riemann Hypothesis is equivalent to the hyperbolicity of Jensen polynomials for Riemann’s Xi-function. This hyperbolicity had only been proved for degrees $d = 1, 2, 3$. We prove the hyperbolicity of all (but possibly finitely many) the Jensen polynomials of every degree $d$. Moreover, we establish the outright hyperbolicity for all degrees $d < 10^{26}$. These results follow from an unconditional proof of the “derivative aspect” GUE distribution for zeros. This is joint work with Michael Griffin, Larry Rolen, and Don Zagier.