1035-30-718   **Mark W Coffey*** (`mcoffey@mines.edu`), Department of Physics, 16th and Illinois Streets, Golden, CO 80401. *Asymptotic estimation of $\xi^{(2n)}(1/2)$: Proof of a conjecture of Farmer and Rhoades.*

We verify a very recent conjecture of Farmer and Rhoades (Trans. Amer. Math. Soc. 357:3789-3811 (2005)) on the asymptotic rate of growth of the derivatives of the Riemann xi function at $s = 1/2$. We give two separate proofs of this result, with the more general method not restricted to $s = 1/2$. We briefly describe other approaches to our results, give a heuristic argument, and mention supporting numerical evidence. (Received September 14, 2007)