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Ganesh B. Malla* (ganesh.malla@uc.edu), 8004 Higgins Ct, Cincinnati, OH 45242. *A New Test for New Better Than Used in Expectation Lifetimes.*

Abstract: The mean residual life of a non-negative random variable X with a finite mean is defined by $M(t) = E\{X - t \mid X > t\}$ for $t \geq 0$. A popular nonparametric model of aging is new better than used in expectation (NBUE), when $M(t) \leq M(0)$ for all $t \geq 0$. The exponential distribution lies at the boundary. There is a large literature on testing exponentiality against NBUE alternatives. However, comparisons of tests have been made only for alternatives much stronger than NBUE. We show that a new Kolmogorov-Smirnov type test is much more powerful than its competitors in most cases. (Received September 25, 2017)