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Steven Dale Cutkosky* (cutkoskys@missouri.edu), Dept. Math., Univ. Missouri, Columbia, MO 65211, and **Kazuhiko Kurano**. *Asymptotic regularity of symbolic powers of ideals of points in a weighted projective plane.*

We study the asymptotic behavior of symbolic powers of ideals of points in a weighted projective plane. Regularity of such powers behaves asymptotically like a linear function. We study the difference between regularity of such powers and this linear function. We prove that this difference is bounded, and under some conditions is eventually periodic. As a corollary, we show that if there exists a negative curve, then the regularity of symbolic powers of a monomial space curve is eventually a periodic linear function. (Received January 26, 2010)