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Jing-Jing Huang* (huang@math.toronto.edu), University of Toronto, 40 St. George St., Toronto, Ontario M5S 2E4, Canada. *The distribution of rational points near planar curves and metric Diophantine approximation.*

In 1998, Kleinbock and Margulis established the fundamental Baker-Sprindžuk conjecture that non-degenerate analytic manifolds are extremal. Subsequently, the much stronger Khintchine-Jarník type theorem for non-degenerate planar curves has been established—thanks to Vaughan and Velani for the convergence theory and Beresnevich, Dickinson and Velani for the divergence theory. Though, both approaches rely on estimates on the number of rational points with small denominators which are “close” to the curve, the two proofs differ quite significantly in nature. In this talk, an approach towards a unified proof of the counting problem and some applications to metric Diophantine approximation on manifolds will be discussed. (Received November 30, 2012)