1100-33-193   **Peter Duren*** (`duren@umich.edu`), Department of Mathematics, University of Michigan, Ann Arbor, MI 48109-1043, and **Martin Muldoon** (`muldoon@yorku.ca`), Department of Mathematics & Statistics, York University, Toronto, ON M3J 1P3, Canada. *Asymptotic behavior of Bessel functions.*

The Sonin–Pólya theorem provides a simple proof that $J_\nu(x) = O(1/\sqrt{x})$ as $x \to \infty$, whenever $|\nu| \geq \frac{1}{2}$, but it fails to capture this well known result when $|\nu| < \frac{1}{2}$. However, a simple proof for $|\nu| < \frac{1}{2}$ can be obtained by combining the Sonin–Pólya theorem with an elementary theorem of similar nature. Further applications of this method will also be discussed. (Received February 07, 2014)