1107-35-362 **Victor Isakov*** (victor.isakov@wichita.edu), Wichita State University, Wichita, KS 67260-0033. *Increasing stability in inverse scattering and inverse source problems.*

We give an explicit bound on the near field from the scattering pattern which is improving when the wave number is growing. The crucial part of the proof is a new estimate of Hankel functions. In the recovery of a source term in the Helmholtz equation from the lateral Cauchy data at an interval (0,K) on wave numbers we demonstrate better stability for larger K by using sharp bounds of the analytic continuation from (0,K) onto the real line and exact observability inequalities for the wave equation. (Received January 19, 2015)