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Victor Isakov* (victor.isakov@wichita.edu), Department of Mathematics and Statistics,
Wichita State University, Wichita, KS 67260-0033. *On increasing stability of the continuation and
in inverse problems for elliptic partial differential equations.*

We discuss better stability of the continuation for the Helmholtz type elliptic partial differential equations when frequency or convection term are growing. According to classical results of Fritz John the optimal stability without additional assumptions is of logarithmic type. We give new stability estimates quantifying this effect and show that under certain (pseudo) convexity conditions the "unstable" logarithmic component of estimate goes to zero at certain rate. In the proofs we use the Fourier analysis and Carleman type estimates. We demonstrate better stability of reconstruction of the Schroedinger potential from the Dirichlet-to-Neumann map for higher energy level/frequency. (Received August 11, 2008)