Plamen Stefanov* (stefanov@math.purdue.edu), Department of Mathematics, Purdue University, West Lafayette, IN 47907, and Gunther Uhlmann, Department of Mathematics, University of Washington, Seattle, WA 98195. Stable determination of generic simple metrics from the hyperbolic DN map and boundary rigidity.

Let $g$ be a Riemannian metric on a bounded domain $\Omega$. We call $g$ simple, if there are no conjugate points in $\bar{\Omega}$, and if the boundary $\partial\Omega$ is strictly convex with respect to $g$. We show that generic simple metrics are uniquely determined by the boundary distance function, or the travel times through the domain, in a stable way. This implies Hölder stability for the inverse problem of recovering $g$ from the hyperbolic DN map for such metrics. (Received September 30, 2004)