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Elliot Blackstone* (eblackstone@knights.ucf.edu), **Alexander Katsevich** and **Alexander Tovbis**. *Riemann-Hilbert methods and the interior problem of tomography*. Preliminary report.

We study the spectrum of an operator related to the finite Hilbert transform on two adjacent intervals. This operator is linked to a 2×2 matrix Riemann-Hilbert problem which we solve asymptotically via Deift-Zhou steepest descent method. The relation to tomography comes from the Gelfand-Graev formula, which converts the tomographic data into the finite Hilbert transform along a collection of lines. (Received July 29, 2017)