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David Damanik, Shuzheng Guo and Darren C Ong* (darrenong@xmu.edu.my), Xiamen University Malaysia, Jalan Sunsuria, Bandar Sunsuria, 43900 Sepang, Selangor, Malaysia. *Simon's OPUC Hausdorff Dimension Conjecture.*

We show that the Szegő matrices, associated with Verblunsky coefficients $\{\alpha_n\}_{n \in \mathbb{Z}_+}$ obeying $\sum_{n=0}^{\infty} n^\gamma |\alpha_n|^2 < \infty$ for some $\gamma \in (0, 1)$, are bounded for values $z \in \partial\mathbb{D}$ outside a set of Hausdorff dimension no more than $1 - \gamma$. In particular, the singular part of the associated probability measure on the unit circle is supported by a set of Hausdorff dimension no more than $1 - \gamma$. This proves the OPUC Hausdorff dimension conjecture of Barry Simon from 2005. (Received March 02, 2021)