

## WIENER–HOPF FACTORIZATION FOR TIME-INHOMOGENEOUS MARKOV CHAINS AND ITS APPLICATION

BY

TOMASZ R. BIELECKI (CHICAGO, IL), IGOR CIALENCO (CHICAGO, IL),  
RUOTING GONG (CHICAGO, IL), AND YICONG HUANG (BALTIMORE, MD)

**Abstract.** We derive the Wiener–Hopf factorization for a finite-state time-inhomogeneous Markov chain. Considered as the first step in the direction of the Wiener–Hopf factorization for time-inhomogeneous Markov chains, this work deals only with a special, but important class of time-inhomogeneous Markovian generators, namely piecewise constant generators, which allows us to use an appropriately tailored randomization technique.

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