A NEW RANDOM-PRODUCT REPRESENTATION FOR THE STATIONARY DISTRIBUTION OF A MARKOV CHAIN

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We present a new random product representation for the stationary distribution of a regular, ergodic Continuous-time Markov chain (CTMC), and we use it to derive stationary distributions associated with CTMCs having a transition rate diagram that contains a small number of cycles. We also give an analogous representation for the distribution of a regular, irreducible CTMC at an independent exponential time.