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ON THE FACTORIZATION OF THE HAAR MEASURE ON FINITE COXETER GROUPS

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Abstract: Let W be a finite Coxeter group and let λ_W be the Haar measure on W, i.e., $\lambda_W(w) = |W|^{-1}$ for every $w \in W$. We prove that there exist a symmetric set $T \neq W$ of generators of W consisting of elements of order not greater than 2 and a finite set of probability measures $\{\mu_1, \ldots, \mu_k\}$ with their supports in T such that their convolution product $\mu_1 * \ldots * \mu_k = \lambda_W$.

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