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Abstract

We use random walks as an approach to obtain connection coefficients for higher-order Bernoulli and Euler polynomials. In particular, we study the cases of a 1-dimensional linear reflected Brownian motion and of a 3-dimensional Bessel process. By considering the successive hitting times of two, three, and four fixed levels of these random walks, we obtain non-trivial identities that involve higher-order Bernoulli and Euler polynomials.