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The number of spanning trees in directed circulant graphs with non-fixed jumps. (English)

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Discrete Math. 307, No. 15, 1873-1880 (2007).

The phrase "non-fixed jumps" in the title is somewhat misleading. The author apparently has in mind that the formulas depend on the integer n which controls the jumps. For example there is given a formula for the number of trees of the circulant graph $C_{pn}(a_1, \ldots, a_k, q_1 n, \ldots, q_m n)$ using a formula for $C_n(a_1, \ldots, a_k)$ and other functions depending on n. Similarly asymptotic behaviours and linear recurrence relations are considered for this problem. In 10 examples the formulas are evaluated for graphs of the form $C_{kn}(1, rn)$ with $k = 2, 3, 4, 5, 6$ and $r = 1, 2, 3, 5$ and for $C_{2n}(1, 2, n)$.

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MSC:

05C30 Enumeration in graph theory
05C05 Trees

Keywords:

spanning tree; directed circulant graph; linear recurrence relation; asymptotic behavior

Full Text: DOI

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