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"Analysis of label-dependent parameters in increasing trees"

Abstract:

Combinatorial families of increasing trees were introduced by Bergeron, Flajolet and Salvy in 1992.

These tree models are used, e.g., to describe the spread of epidemics, for pyramid schemes, and as a simplified growth model of the www.

Here we present a general approach for analyzing label-dependent parameters as the degree, the subtree-size, or the depth of node  $j$ . Our exact and limiting distribution results give a very precise description of the behaviour of specific nodes in such trees.