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A coding algorithm for Rényi trees. (English)

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The author considers k -trees with n labelled nodes $1, 2, \dots, n$ constructed as follows: start with a complete k -graph with nodes $n - k + 1, \dots, n$ and successively join a new node to k nodes already joined to each other. He shows that there is a bijection between these k -trees with n nodes and certain doubly labelled rooted trees with $n - k + 1$ nodes and one between these latter trees and certain doubly labelled forests of trees of height one. This ultimately gives rise to a bijection between k -trees with n labelled nodes and sequences of length $n - k + 1$ over an alphabet of $k(n - k) + 1$ elements. Some applications of these bijections are discussed.

*J.W.Moon (Edmonton)**Keywords* : Rényi trees; k -trees; bijection; sequences*Classification* :

*05C05 Trees

05C70 Factorization, etc.

05C78 Graph labelling

05C85 Graphic algorithms

Cited in ...