

[54] VARIABLE-TO-BLOCK-WITH-PREFIX SOURCE CODING TECHNIQUE

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[57] ABSTRACT

A method and apparatus for data compression which utilizes a random walk through Pascal's triangle which is directed by the incoming random source sequence. The random walk starts at the apex of Pascal's triangle and proceeds downward according to an algorithm until it terminates at a boundary which has been constructed in such a way that the encoding of each source sequence can be accomplished in a fixed number of bits. The fixed-length encoded block consists of a prefix to determine the boundary crossing point in Pascal's triangle and a suffix which represents the encoded form of the input sequence relative to that starting point. Theoretically optimal entropy encoding is achieved by this method.

15 Claims, 13 Drawing Figures

