

DATA ENCODING METHOD AND RELATED APPARATUS

ABSTRACT

Embodiments of this application provide a data encoding method and a related apparatus, to reduce encoding complexity without changing a length of an inner codeword and redundancy costs. Specifically, for a first data stream obtained through outer encoding, inner encoding needs to be performed on every consecutive k bits in the first data stream, where k is an odd number greater than 1. A total of $(k-1)/2$ bits may be obtained by performing an exclusive OR operation on every two of remaining bits other than one target bit in the k bits. Further, second FEC encoding is performed on a bit sequence that includes the $(k-1)/2$ bits and the target bit, to obtain p parity bits. n bits in an inner codeword obtained through inner encoding include the consecutive k bits and the p parity bits. It can be learned that, in embodiments of this application, an exclusive OR operation first and then encoding manner is used. For example, (128, 119) codeword processing may be implemented via a (69, 60) encoder, so that encoding complexity is reduced without changing a length of the inner codeword and redundancy costs.

Fig. 5