

## 基于加权图的准循环低密度奇偶校验码构造算法

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**摘要** 提出了大围长准循环低密度奇偶校验码低复杂度构造方法, 主要基于加权图来确定满足大围长基矩阵待定位容许值集合. 这些集合无须通过逐一试用所有可能数值来确定, 因而大大降低了准循环低密度奇偶校验码的构造复杂度. 仿真表明该算法构造出的准循环低密度奇偶校验码具有大围长, 且具有好的性能.

**关键词** [低密度奇偶校验码](#) [环](#) [围长](#) [加权图](#)

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## Algorithm for constructing QC\_LDPC codes based on the weighted map

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### Abstract

A low complexity algorithm for constructing Quasi\_cyclic low-density parity-check (QC\_LDPC) codes with a large girth is presented. Based on the weighted graph, the algorithm leads to sets of values of all undetermined positions of the base matrix ensuring QC\_LDPC with a large girth. The sets of values are determined without trying every possible value so that the complexity for constructing QC\_LDPC codes is greatly reduced. Simulations show the algorithm can construct codes with a large girth which have good performances. <BR>

**Key words** [low-density parity-check codes](#) [cycle](#) [girth](#) [weighted map](#)

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