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基于二级定位的编码信道信息隐藏算法

Improved information hiding algorithm based on twice positioning in coding channel

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英文关键词: [information hiding](#) [coding channel](#) [twice positioning](#) [cyclic shift](#)

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中文摘要:

分析了以编码信道为载体的信息隐藏算法及容量, 指出现有算法存在的问题, 提出了一种结合容量上限判断的基于二级定位的信息隐藏算法。所提算法在秘密信息嵌入前首先计算系统隐藏容量上限, 并判断是否超出; 接着在嵌入位置选择过程中引入二级定位以及循环移位机制。仿真结果表明, 相比已有算法, 所提算法能较好地避免因隐藏容量过大而导致秘密信道暴露的风险; 同时通过二级定位及循环移位机制提高嵌入位置的随机性, 避免秘密信息相互覆盖, 提升信息隐藏性能。

英文摘要:

Based on analysis of existing information hiding algorithms and capacities in coding channel, the defects of those existing algorithms were pointed out, and an improved information hiding algorithm with capacity upper limit analysis and based on twice positioning was proposed. In the proposed algorithm, the information hiding capacity upper limit is firstly computed before embedding, and used for comparison with the size of hiding secret data. Then, twice positioning scheme and cyclic shift mechanism for choosing the embedding position were used in the proposed algorithm. Simulation results show that, compared with those existing algorithms, the proposed algorithm is able to avoid the risk of exposure of the secret channel caused by capacity exceeding of hiding data. It can not only improve the randomness of the embedding position, but also avoid the risk of overlap among different secret data. The hiding performances of the coding channel information hiding system are improved.

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