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Abstract
Since the prisoners' problem of data hiding was presented by Simmons in 1984, a lot of experts and scholars had devoted themselves to this problem. In 2004, Wu and Liu proposed a novel method about data hiding, in which the optimal pixels of hiding data can be calculated and the trick of odd-even mapping is applied. In Wu and Liu’s method, it is difficult to distinguish the different between cover0image and stego-image. However, there exists a drawback in their method. In other word, they ask the technique of shuffling not to be public in order to prevent the malicious attack. Moreover, how to shuffle is lacked.

In this paper, first we research the mathematical properties for shuffling on recent technical literatures. Next the data hiding algorithm based on the shuffling technique of RSA would be proposed. Our data hiding algorithm is applied on spatial domain. Thus it has two advantages, the shuffling technique could be public and the required memory capacity might be reduced. In addition, our algorithm could prevent the malicious attack and the damage due to unconscious.
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