Qin Yanlin and Wu Xiaoping proposed a digital signature scheme based on elliptic curve
discrete logarithm problem and factoring a composite integer. They claimed that the security of
their scheme depends on solving ECDLP and factoring both. In this paper, it is shown that if
anyone can solve ECDLP then he can generate a valid signature without knowledge of private
keys. An improved scheme is also proposed in this paper. The proposed scheme requires
minimal operations in encryption and decryption algorithms which makes it more efficient.

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Index Terms

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Cryptanalysis; elliptic curve discrete logarithm; factoring