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UC-Secure Multi-Session OT Using Tamper-Proof Hardware

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Abstract: In this paper, we show the first UC-secure multi-session OT protocol using tamper-proof hardware tokens. The sender and the receiver exchange tokens only at the beginning. Then these tokens are reused in arbitrarily many sessions of OT. The proposed scheme is UC-secure against static adversaries if the DDH assumption holds and a unique signature scheme exists. There exist a unique signature schemes under the Many DH assumption or under the DDHE assumption (in the standard model).

Category / Keywords: tamper-proof hardware token, UC-security, multi-session OT

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Note: The random oracle is removed.

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