

# A Scalable and Flexible Multi-User Semi-Quantum Secret Sharing

Submitted by [aekwall](#) on Mon, 06/17/2019 - 10:28am

Title A Scalable and Flexible Multi-User Semi-Quantum Secret Sharing  
Publication Type Conference Paper  
Year of Publication 2018  
Authors [Cao, Gang](#), [Chen, Chen](#), [Jiang, Min](#)  
Conference Name Proceedings of the 2Nd International Conference on Telecommunications and Communication Engineering  
Publisher ACM  
Conference Location New York, NY, USA  
ISBN Number 978-1-4503-6585-7  
Keywords [composability](#), [pubcrawl](#), [quantum cryptography](#), [Quantum secret sharing](#), [scalable](#), [security scalability](#), [Single-qubit measurements](#)

Abstract In this letter, we proposed a novel scheme for the realization of scalable and flexible semi-quantum secret sharing between a boss and multiple dynamic agent groups. In our scheme, the boss Alice can not only distribute her secret messages to multiple users, but also can dynamically adjust the number of users and user groups based on the actual situation. Furthermore, security analysis demonstrates that our protocol is secure against both external attack and participant attack. Compared with previous schemes, our protocol is more flexible and practical. In addition, since our protocol involving only single qubit measurement that greatly weakens the hardware requirements of each user.

URL <https://dl.acm.org/citation.cfm?doi=3291842.3291857>

DOI [10.1145/3291842.3291857](https://doi.org/10.1145/3291842.3291857)

Citation Key cao\_scalable\_2018



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