



Contribution ID: 289

Type: Poster Presentation

Quantum state sharing of an arbitrary three particle state using Einstein-Podolsky-Rosen pairs and GHZ state measurements

Wednesday, 6 July 2016 16:10 (1h 50m)

Abstract content (Max 300 words) **Formatting & Special chars**

We propose a scheme in which Alice share an arbitrary three-particle unknown state with Bob1 and Bob2. Alice start by sharing Einstein-Podolosky-Rosen(EPR) pairs with her agents and then perform three joint three-particle Greenberger-Horne-Zeilinger(GHZ) state measurements on her particles. Bob1 who acts as controller performs a product measurements in the x-direction on his particles whilst Bob2 retrieves the original state by performing three unitary operations on his particles. Subsequently we propose the generalized multiparty quantum state sharing of an arbitrary three particle state. This scheme can be applied for sharing of secret information in quantum communication networks.

Apply to be considered for a student award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

MSc

Main supervisor (name and email) and his / her institution

Dr Mhlambululi Mafu

Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

Yes

Please indicate whether this abstract may be published online (Yes / No)

Yes

Primary author: Mr SEKGA, Comfort (Botswana International University of Science and Technology)

Co-author: Dr MAFU, Mhlambululi (Botswana International University of Science and Technology)

Presenters: Mr SEKGA, Comfort (Botswana International University of Science and Technology); Dr MAFU, Mhlambululi (Botswana International University of Science and Technology)

Session Classification: Poster Session (2)

Track Classification: Track G - Theoretical and Computational Physics