Knotted Picture of a Quantum Network of Two Nodes

QIAN Shang-Wu[1] and GU Zhi-Yu[2]

[1] Physics Department, Peking University, Beijing 100871, China
[2] Physics Department, Capital Normal University, Beijing 100037, China

Abstract: This article discusses the variation of the knotted picture of the quantum pure state $|\chi\rangle = \alpha|\uparrow\downarrow\rangle + \beta|\downarrow\uparrow\rangle$ with the variation of the complex coefficients α and β. It is shown that there are three kinds of link that correspond to three different ranks of the matrix of covariance correlation tensor, i.e., the zero rank corresponds to trivial link, the rank one corresponds to the two-component link with two crossings, and the rank three corresponds to the two-component link with four crossings.

[Full text: PDF]

Close