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Homogeneous Open Quantum Walks on a Line

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Abstract content
   (Max 300 words)
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We examine homogeneous open quantum walks along a line, wherein each forward step is due to one quantum jump operator, and each back- ward step due to another quantum jump operator. These two quantum jump operators may or may not commute with each other. We show that if the system has N internal degrees of freedom, we can obtain exact probability distributions which fall into two distinct classes, namely Gaussian distributions and solitonic distributions. The resulting probability distribution allows us to analytically determine the asymptotic behavior of the system undergoing this open quantum walk.

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No

Level for award
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PhD

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

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Would you like to <br> submit a short paper <br> for the Conference
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