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Quantum feedback control of a harmonic oscillator

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Abstract content
 (Max 300 words)
Formatting &
Special chars

We formulate a theory of quantum feedback control of a single quantum particle in a harmonic potential. By continuously monitoring a combination of position and momentum we can feedback an appropriate force proportional to the measured signal to cool and confine the system. We derive a master equation which describes the feedback control in order to calculate the final temperature as a function of the feedback gain and measurement strength.

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

Yes

Level for award
 (Hons, MSc,
 PhD)?

PhD

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

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Would you like to
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 Proceedings (Yes / No)?

Yes

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