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## Numerical modelling of the generation of Gaussian graph state

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**Abstract content <br> &nbsp; (Max 300 words)<br><a href="http://events.saip.org.za/getFile.py/a" target="\_blank">Formatting &<br>Special chars</a>**

We present the results of a numerical modelling of a system of two distant nitrogen vacancy ensembles (NVEs) embedded in separated transmission line resonators (TLRs) with identical length coupled to a current biased Josephson Junction (CBJJ). The TLRs are connected at both ends to the Josephson Parametric amplifiers (JPA) as they are sources of a squeezed microwave field. The fluctuation of the current bias provokes dissipation in the junction which leads to entanglement. We analyse the fidelity of two modes gaussian graph (cluster) state and two entangled bosonic modes of NVEs.

**Apply to be<br> considered for a student <br> &nbsp; award (Yes / No)?**

No

**Level for award<br>&nbsp;(Hons, MSc, <br> &nbsp; PhD)?**

PhD

**Main supervisor (name and email)<br>and his / her institution**

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

yes

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