



Quantum Hardware – Optical Models

Q&A, projects session

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Based on the book, Quantum Computation and Quantum Information, by M. Nielsen and I. Chuang

Quantum Hardwares – Optical Models– Projects

POSSIBLE PROJECTS

These are some suggestions about possible projects from the Quantum Hardware Course (Optical Models). You just need to choose only one project and solve the parts suggested in the video. If you prefer you can pick a different project provided that it is related to the topics studied during the course.

We accept individual or group (2 to 5 people) projects.

- Ψ) N.J. Cerf, C. Adami, and P.G. Kwiat, “Optical simulation of quantum logic”, Physical Review A, 57, (1998) or [arXiv:quant-ph/9706022](https://arxiv.org/abs/quant-ph/9706022)
- ΨΨ) P.G. Kwiat, J.R. Mitchell, P.D.D. Schwindt, and A.G. White “Grover’s search algorithm: an optical approach”, Journal of Modern Optics, 47, 257, (2000) or [arXiv:quant-ph/9905086](https://arxiv.org/abs/quant-ph/9905086)

POSSIBLE PROJECTS

$\Psi\Psi\Psi$) P. Domokos, J.M. Raimond, M. Brune, and S. Haroche “Simple cavity-QED two-bit universal quantum logic gate: The principle and expected performances”, Physical Review A, 52, 3554, (1995)

Good Luck!