



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

Two-qubit CZ gate implementation with trapped neutral atoms: a numerical simulation

Alice Pagano

Mat. 1236916

alice.pagano@studenti.unipd.it

Michele Puppin

Mat. 1227474

michele.puppin@studenti.unipd.it

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New protocol

- Two global laser pulses (with the laser phase of the second pulse shifted by ξ) of the same length τ and detuning Δ couple $|1\rangle$ to $|r\rangle$ and drive nearby atoms within the Rydberg blockade regime [?].
- Neighboring atoms cannot be simultaneously excited to the Rydberg state according to the **Rydberg blockade**.

**Thank you for the
attention!**

References