

Nitrogen-Vacancy Photoionization from the Singlet State: Micro-diamond electrodes

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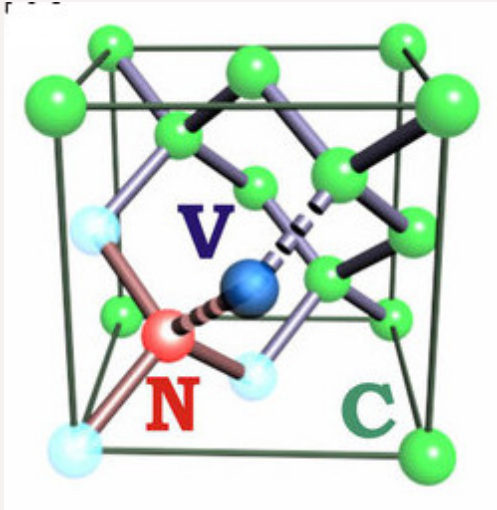
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PHYSICS & ASTRONOMY
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Nitrogen-Vacancy Diamonds

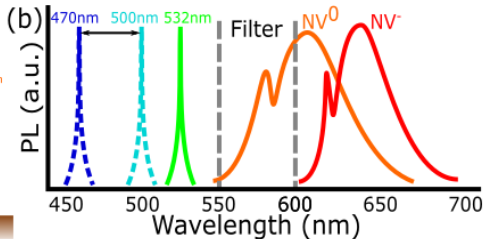
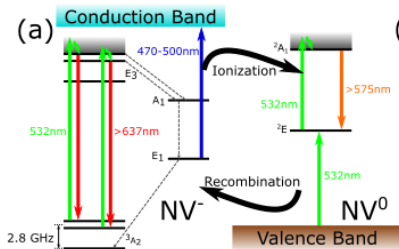
NV Defect



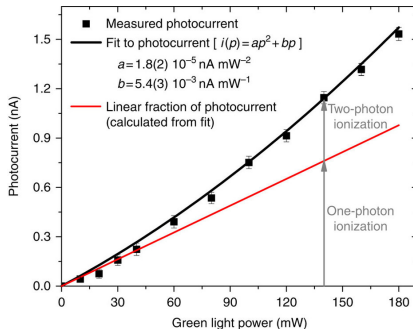
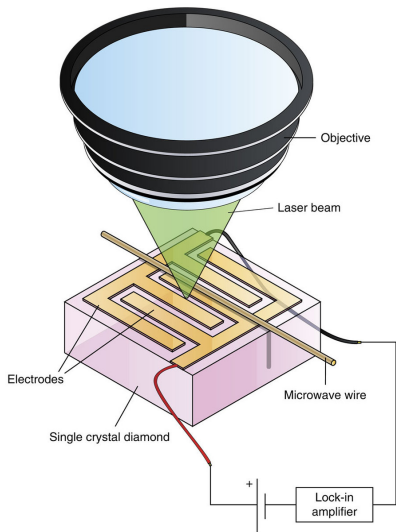
I. V. Fedotov, et al. Sci. Rep. 4, 5362 (2014).

Nitrogen-Vacancy Photoionization

NV Energy and Fluorescence



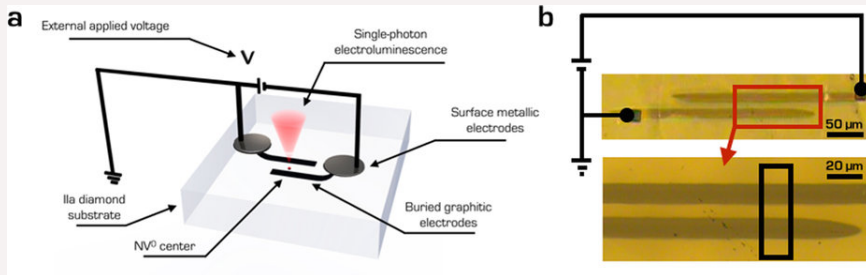
Two Photon Photoionization



E. Bourgeois, et al. Nat. Commun. 6, 8577 (2015).

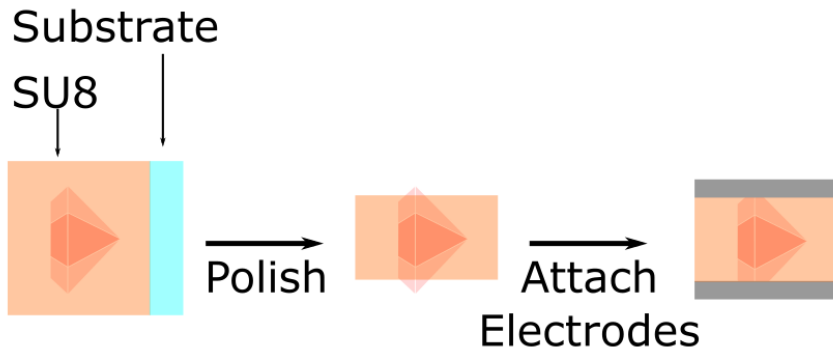
Single-Photon Electroluminescence

Ion-Microbeam Buried Electrodes

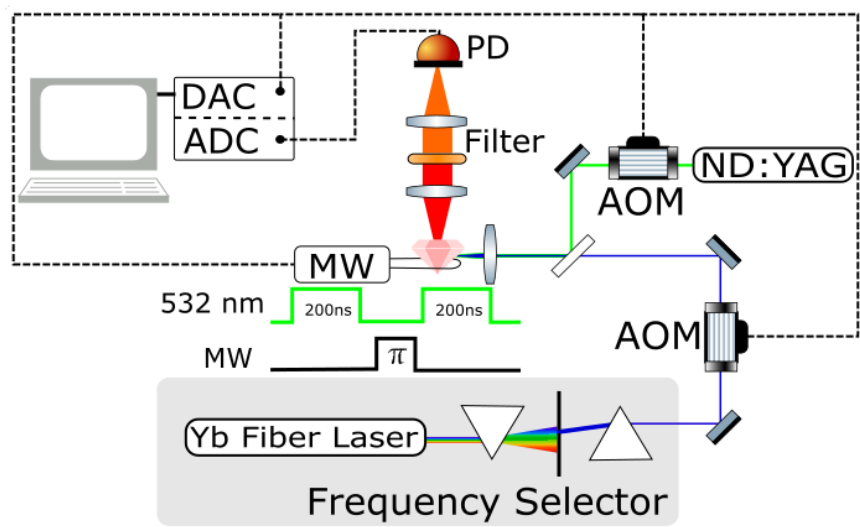


J. Forneris, et al. Nat. Publ. Gr. 1 (2015).

Proposed Micro-diamond Electrode Process



Proposed Singlet State Photoionization



Conclusions

- Singlet state ionization is a single photon process.
- If we can ionize from the singlet state we should be able to measure a photocurrent with a linear dependence on pump power.