

# **Dominica Quasi-Photon Storage**





## Overview

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The ensemble is initially prepared via optical pumping using two auxiliary, circularly-polarized laser beams, which cover the entire cell area. The beams are derived from two DBR diode-lasers at 894 nm, tu.



## Dominica Quasi-Photon Storage

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### [High Efficiency Storage of Quasi-Classical and Quantum ...](#)

Introduction The efficient storage of quantum states is crucial for quantum communication and quantum computation [1,2]. In that context, quantum memories play a pivotal role in the ...

### [Product Information](#)

### [Deterministic storage and retrieval of telecom light from a](#)

In this work, we experimentally demonstrate the storage and active recall of deterministic telecom light emitted from a semiconductor QD single-photon source in a hot ...

### [Product Information](#)



### **Verification of dry storage cask loading using monoenergetic photon**

Safeguarding the contents of spent nuclear fuel dry storage casks requires the verification of cask contents, especially if continuity of knowledge has been lost. The high attenuation of the cask's ...

### [Product Information](#)

### [Low-noise quantum memory for quasi-deterministic single ...](#)

A quantum repeater architecture based on the use of deterministic single-photon sources and absorptive ensemble-based quantum memories was proposed to overcome this limitation [2].



## [Product Information](#)

### FLEXIBLE SETTING OF MULTIPLE WORKING MODES



### Highly efficient storage of cavity SPDC single photons in room

In this paper, we explore the combination of an ultralow spectral bandwidth source of single photons from cavity-enhanced spontaneous parametric down-conversion with a hot ...

## [Product Information](#)

### Photon storage in $\Lambda$ -type optically dense atomic media. IV. Optimal

We use the numerical gradient ascent method from optimal control theory to extend efficient photon storage in  $\Lambda$ -type media to previously inaccessible ...

## [Product Information](#)



### Light storage for one second in room- temperature alkali vapor

Here we present and experimentally demonstrate a storage scheme that is insensitive to spin-exchange collisions, thus enabling long storage times at high atomic densities.

## [Product Information](#)

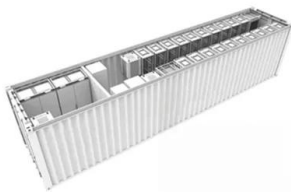




## [Room-temperature single-photon source with near ...](#)

An alternative route to a single-photon source on demand is to generate a single photon in one system, store it in another memory system and then retrieve it on demand.

### [Product Information](#)



## [Towards a quasi-deterministic single-photon source](#)

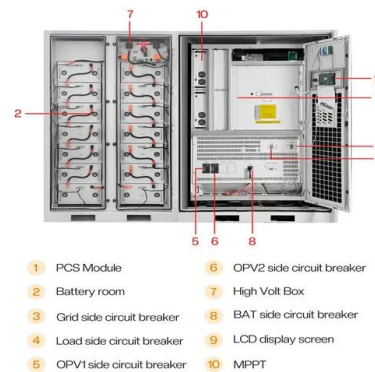
Their idea was to conditionally prepare single photons by measuring one member of a spontaneously emitted photon pair and storing the remaining conditionally prepared photon ...

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## **Single-Photon Storage in a Ground-State Vapor Cell Quantum ...**

In our work we demonstrate storage and retrieval of single photons at high bandwidth in a room-temperature platform, consisting of a single-photon source based on ...

### [Product Information](#)



## **Deterministic Photon Storage and Readout in a Semimagnetic ...**

In this paper, a single-photon buffering device composed of a quantum dot doped with a single Mn atom in a cavity is theoretically proposed. A method to detain a single cavity photon as an ...

### [Product Information](#)



## Single-photon-level quantum image memory based on cold atomic

A quantum memory is a key component for quantum networks, which will enable the distribution of quantum information. Its successful development requires storage of single ...

[Product Information](#)



## Raman Storage of Quasideterministic Single Photons Generated ...

We demonstrate the storage and retrieval of an on-demand single photon generated by a collective Rydberg excitation in a low-noise Raman quantum memory located ...

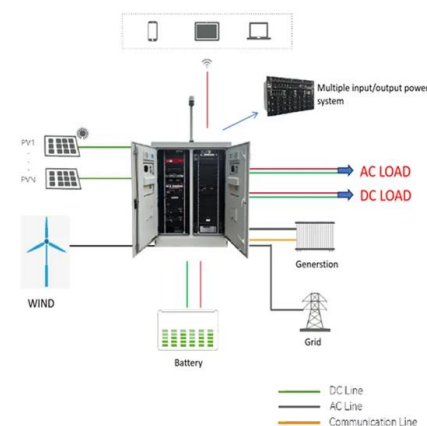
[Product Information](#)



## Experimental Investigation of Light Storage of Diffraction-Free and

**Abstract:**In this article we report on the experimental investigation of light storage for several types of diffraction-free beams (Bessel and Airy beams) and quasi-diffraction-free ...

[Product Information](#)



## Photon storage in -type optically dense atomic media. II. Free ...

In a recent paper [Gorshkov et al., Phys. Rev. Lett. 98, 123601 (2007)], we presented a universal physical picture for describing a wide range of techniques for storage ...

[Product Information](#)





## Storing single photons emitted by a quantum memory on a highly ...

Here we demonstrate storage and retrieval of a paired and synchronizable single photon in a highly nonlinear medium based on excited Rydberg atomic states of a cold atomic ...

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## Dynamic photon storage

A scheme for dynamically tuning the coupling between a series of resonators and waveguides provides a means of storing light on an integrated photonic chip for longer than is possible with

[Product Information](#)



## Deterministic storage and retrieval of telecom light from a

A hybrid interface of solid- state single- photon sources and atomic quantum memories is a long sought- after goal in photonic quantum technologies. Here, we ...

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## Storing single photons emitted by a quantum memory on a highly

Here we demonstrate storage and retrieval of a paired and synchronizable single photon in a highly nonlinear medium based on excited Rydberg atomic states of a cold atomic ...

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[\(PDF\) Generation of counterpropagating photon pairs in ...](#)

3 days ago · We demonstrate the generation of counterpropagating, twin-photon pairs in the optical communication band, utilizing periodically poled Rb-doped KTiOPO 4 . The spectral ...

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**Increasing beam stability zone in synchrotron light sources using**

Nowadays, the design of storage rings of synchrotron light sources is a major challenge, mainly because the dynamic aperture is reduced by non-linear properties of the ...

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[High Efficiency Storage of Quasi-Classical and Quantum ...](#)

In this work, we propose a novel, simple, and highly efficient optical model that can store quantum (single photon or entangled) and quasi-classical (coherent) states of light using coupled ...

[Product Information](#)



[Deterministic Photon Storage and Readout in a ...](#)

In this paper, a single-photon buffering device composed of a quantum dot doped with a single Mn atom in a cavity is theoretically proposed. A method to detain ...

[Product Information](#)





## **Exponential improvement in photon storage fidelities using ...**

A central goal within quantum optics is to realize efficient interactions between photons and atoms. A fundamental limit in nearly all applications based on such systems ...

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