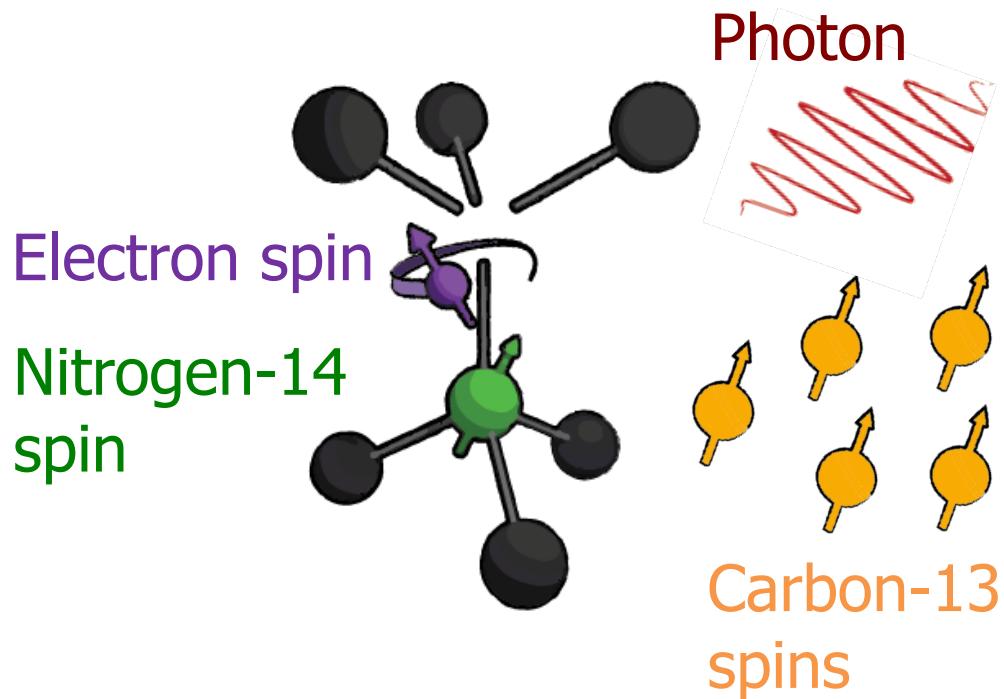


Tim Taminiau  
*NV Center Qubit*

## The NV center in diamond

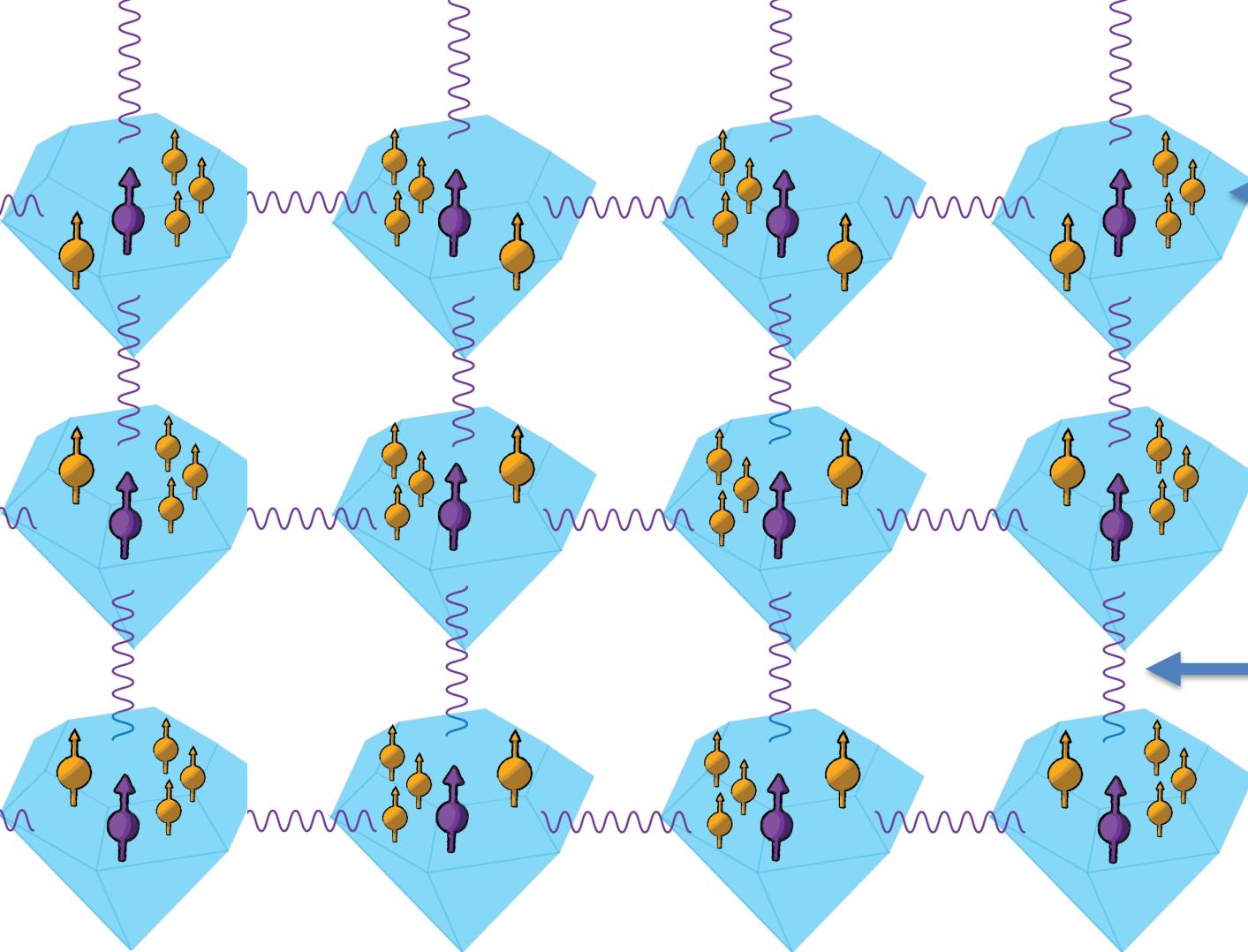


## Key features

Long coherence times  
(even at 290 K)

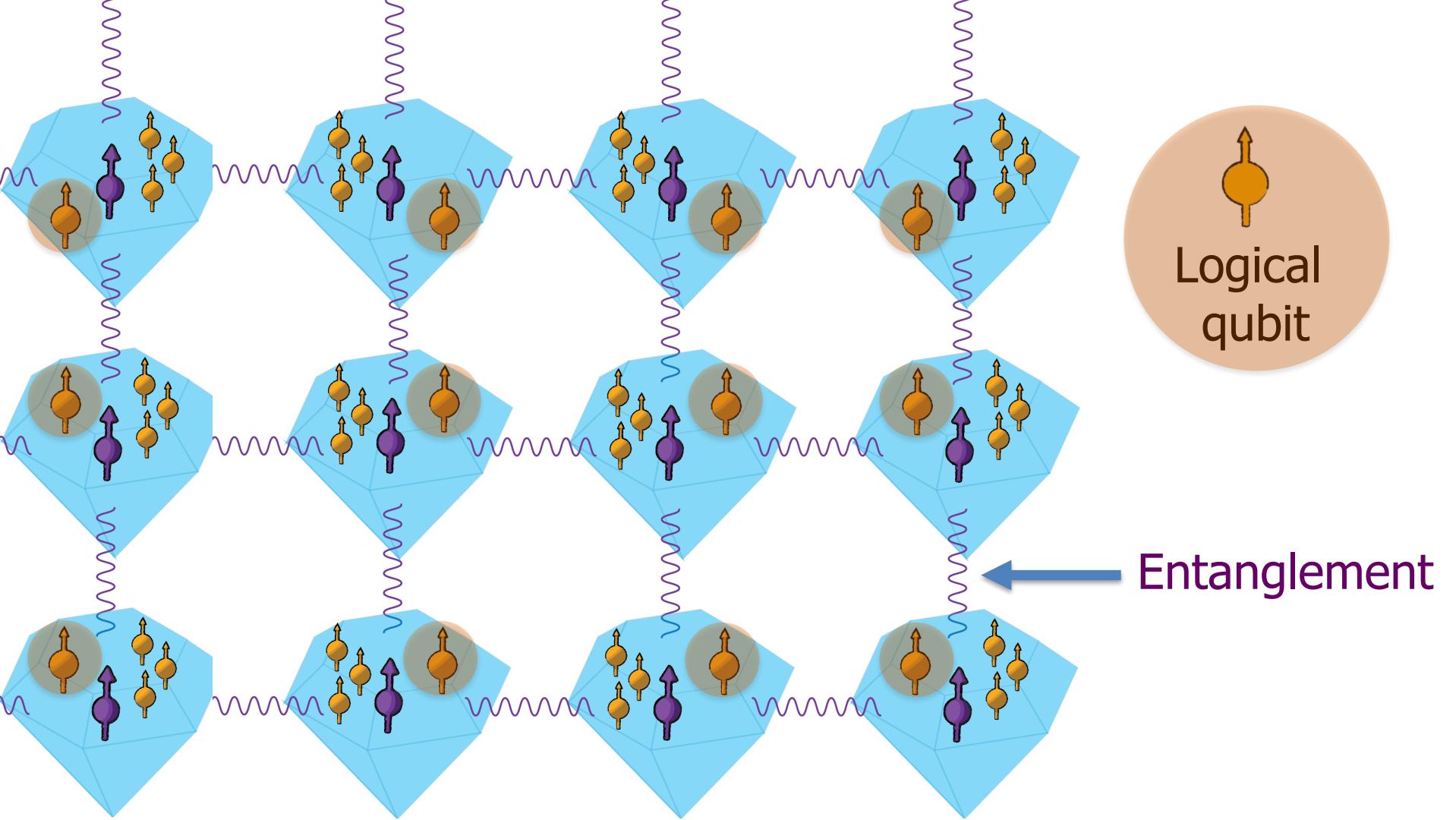
Combines different qubits

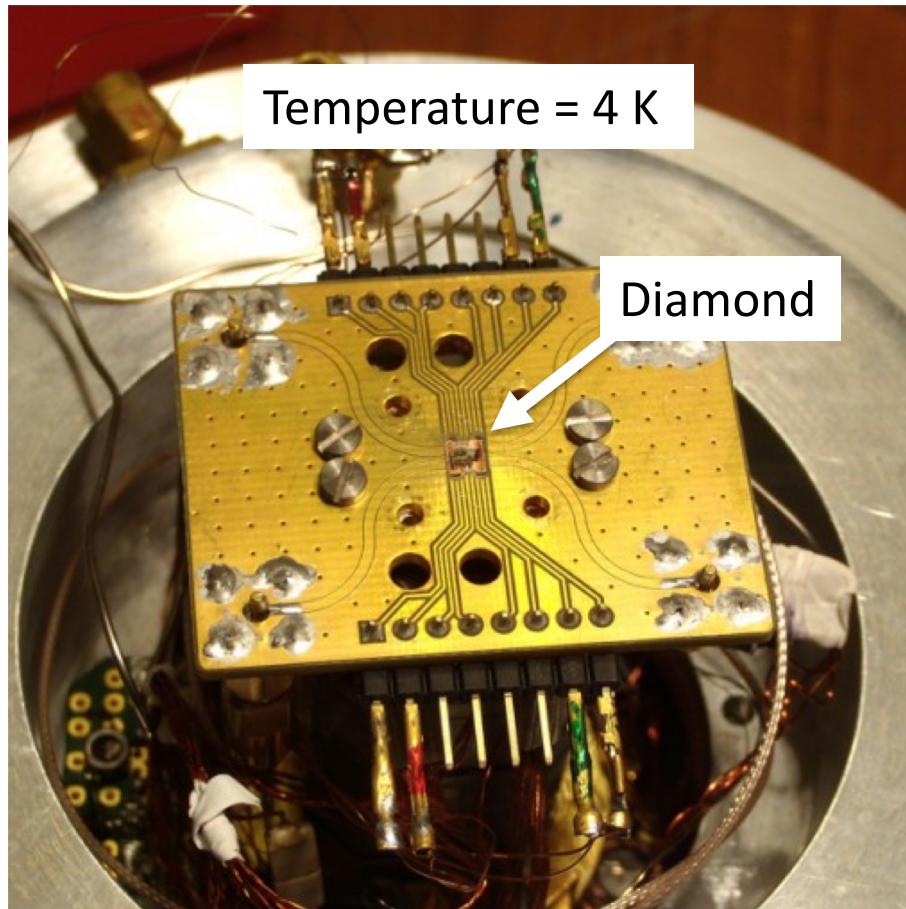
Optical interface

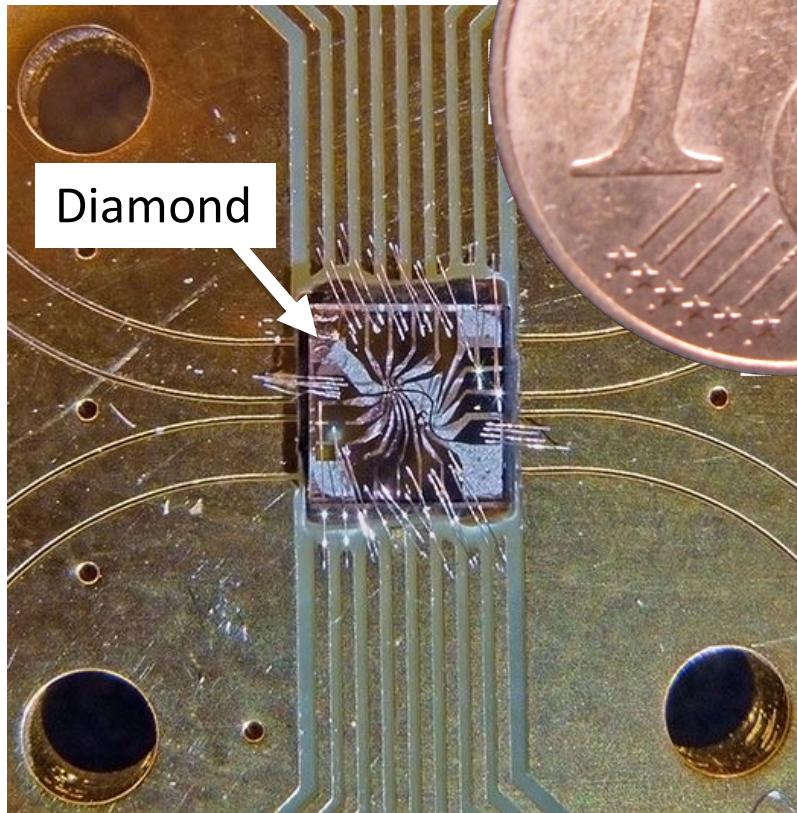


Nodes:  
Electron and  
nuclear spins

Links:  
photons







Gates to

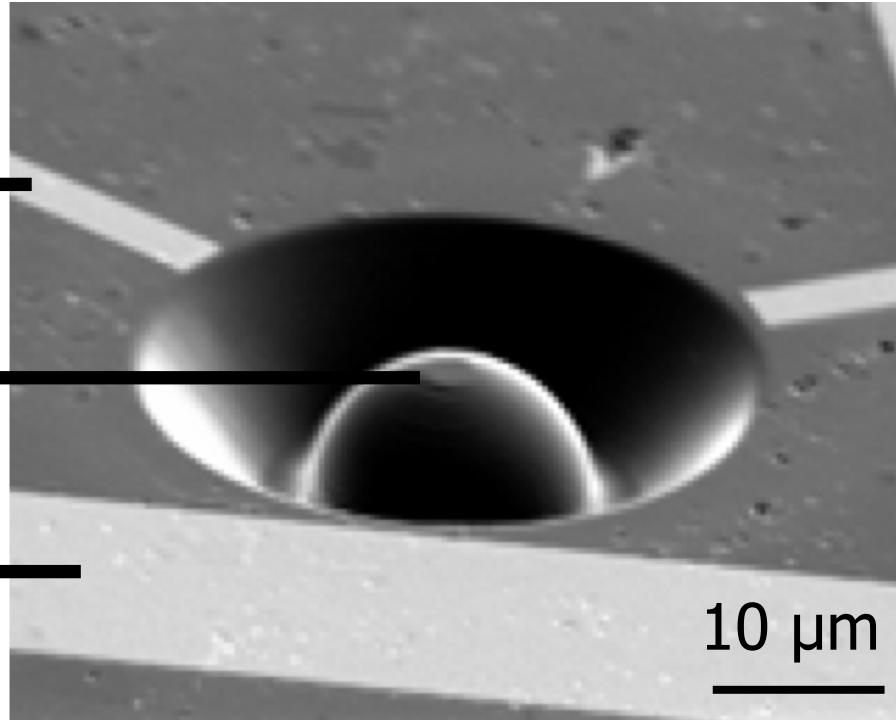
tune wavelength



Solid immersion  
lens



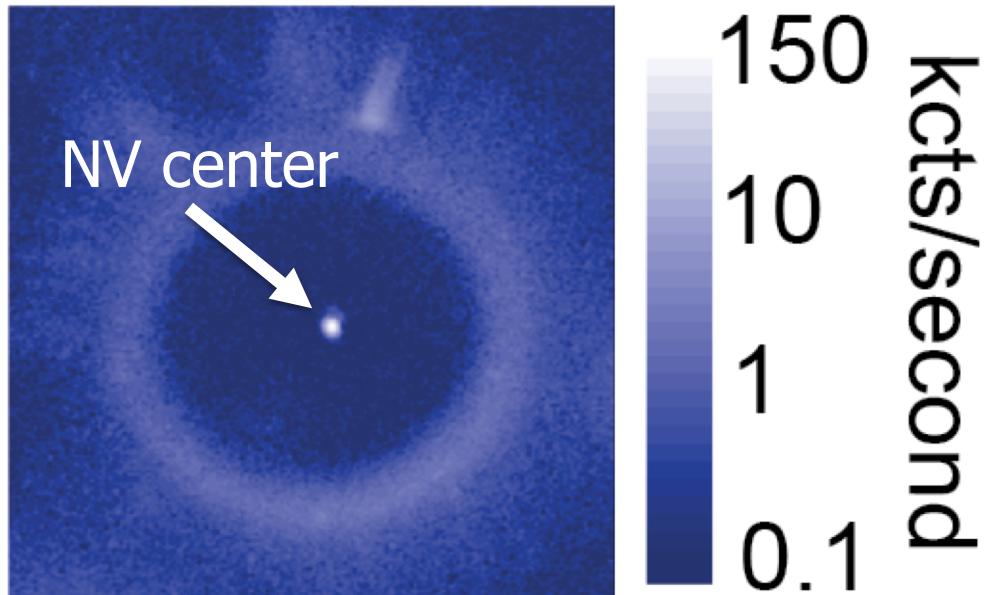
Microwave line

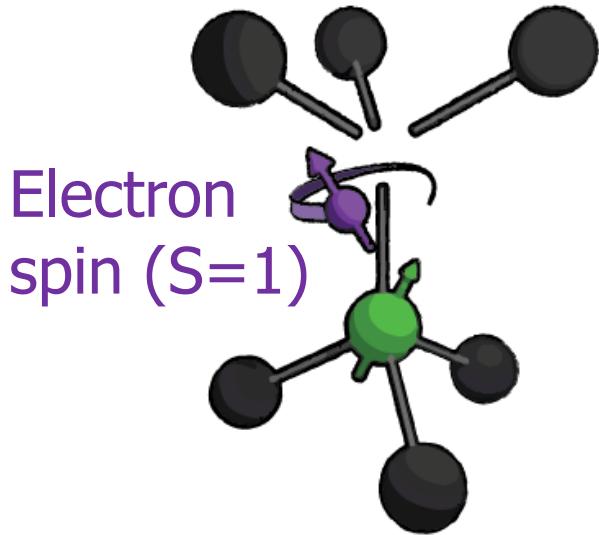


10  $\mu\text{m}$

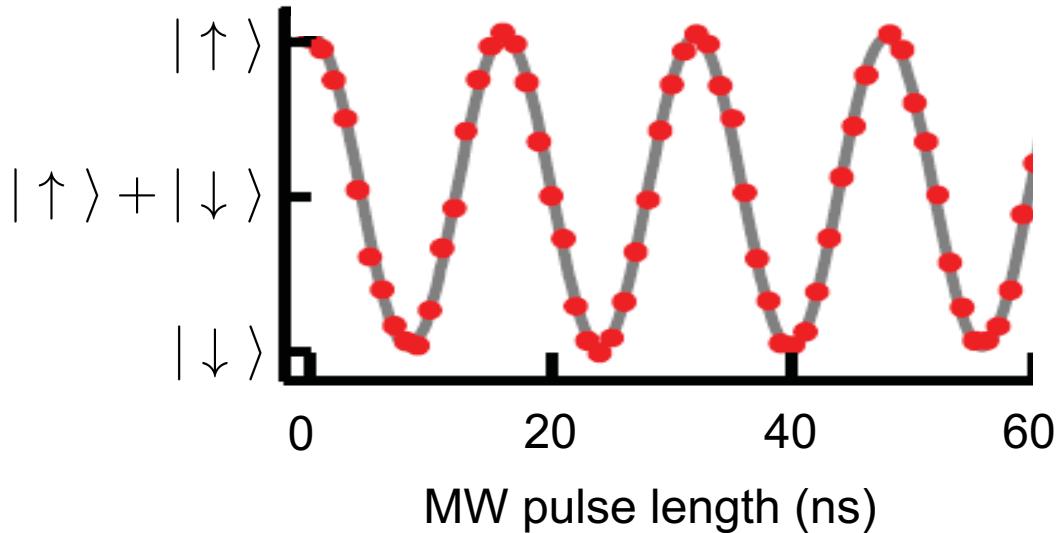


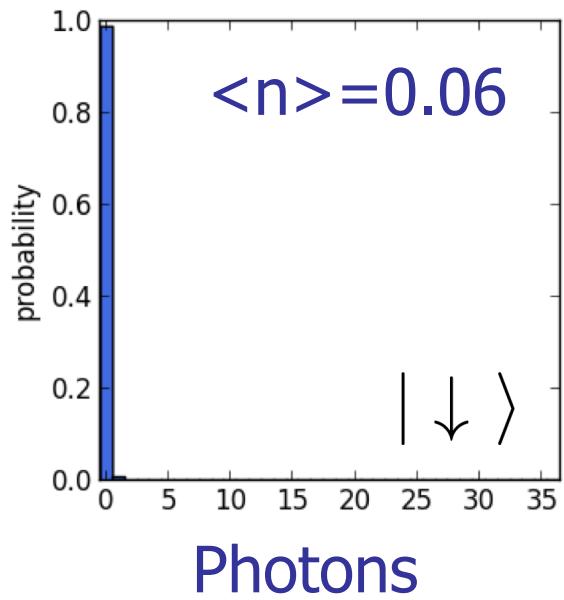
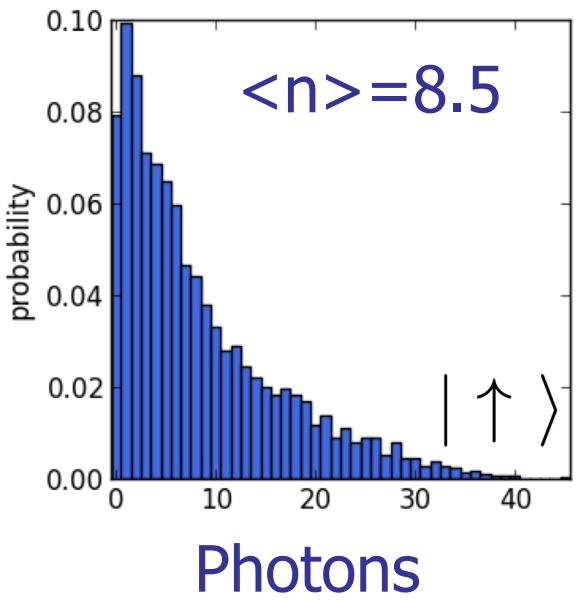
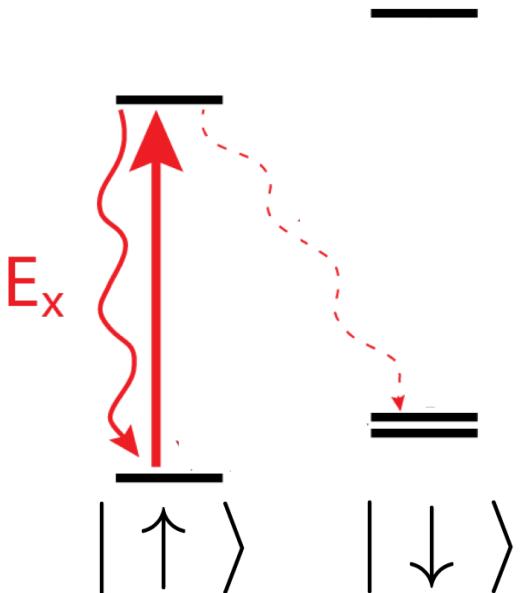
Fluorescence image





$| \uparrow \rangle$        $| \downarrow \rangle$   
 $m_s=0$        $m_s=-1$





# The laboratory

Microwave equipment



Cryostat



Optics and  
lasers



