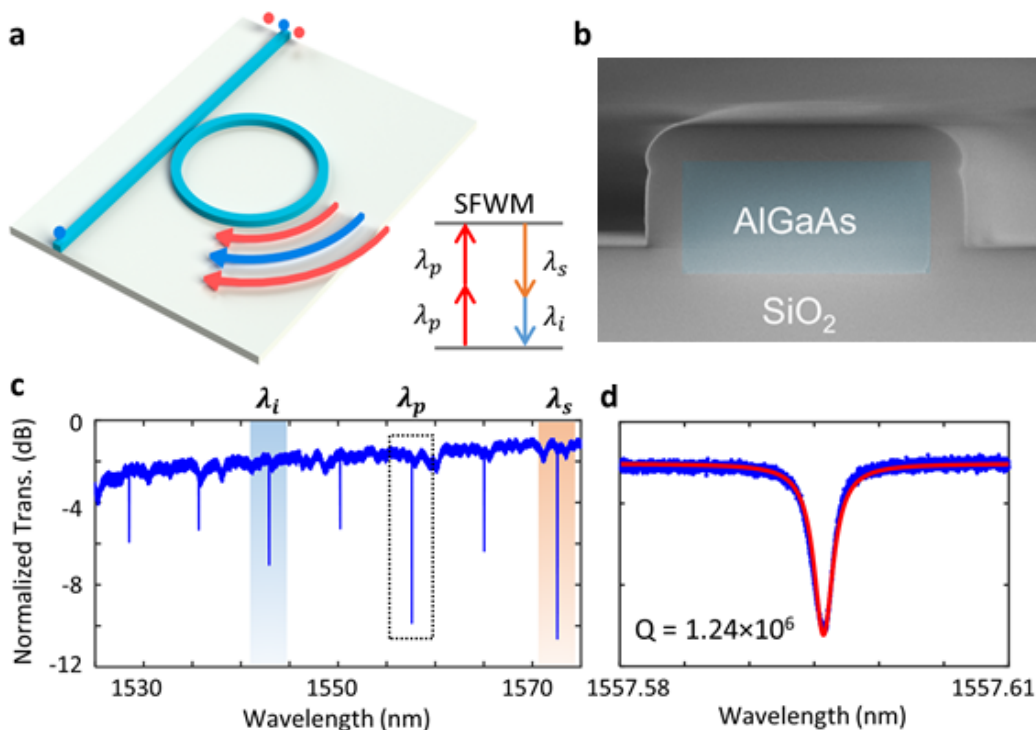


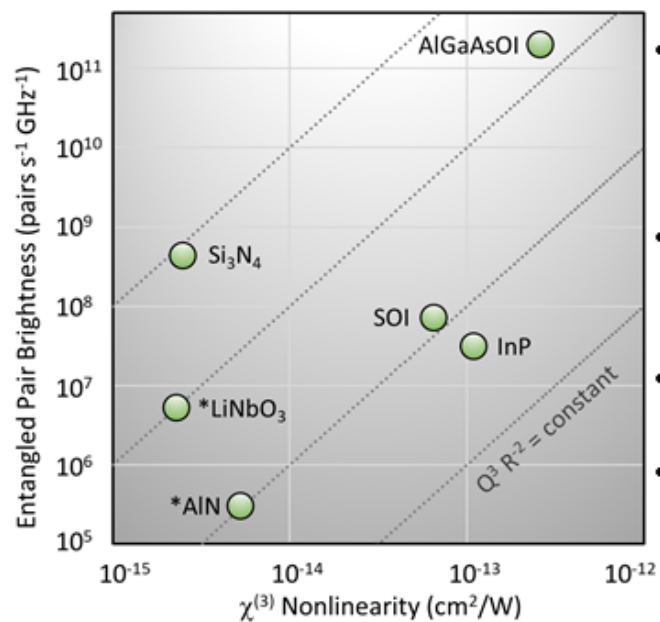
Time-Energy Entangled Photon Pairs from an AlGaAsOI Microring Resonator

Trevor Steiner, Joshua Castro, Lin Chang, John Bowers, Galan Moody

Spontaneous Four Wave Mixing



Experimental Results



- 1000-fold improvement in photon pair brightness
- **Generation rate:** 20×10^9 pairs sec⁻¹ mW⁻²
- **Single photon purity:** >99%
- **Visibility:** >97%

Future Work:

- On-chip pump filtering
- Component-level development
- Quantum photonic integrated circuits for quantum information and computation applications