(a)

5–15 GHz

CPW resonator

CPW resonator

3 μm   1 μm

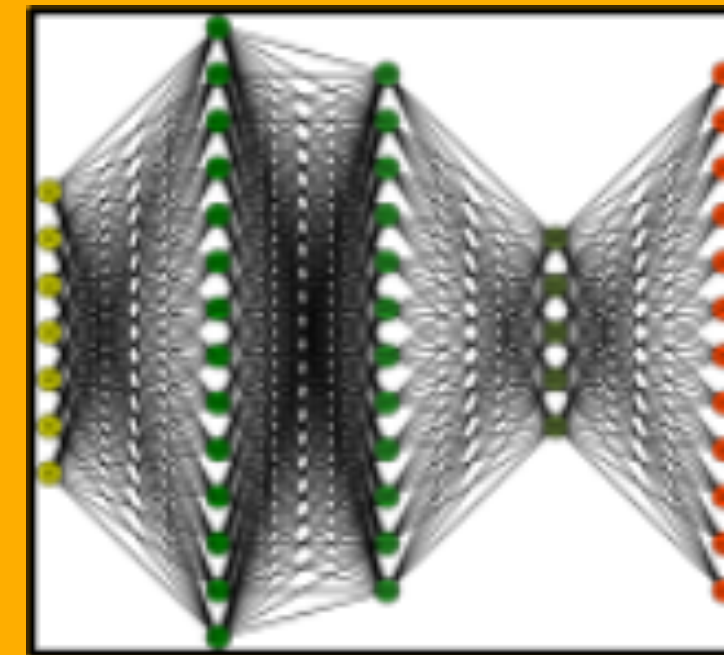0.5 μm

Liquid helium

(b)

(c)

(d)

Quantum Technology and Quantum systems

- Correlations and predictions
- Estimation and causation
- Catalysis
- Quantum mechanical many-body theories
- Quantum computing
- Quantum control
- Molecular dynamics and density functional theory

Artificial Intelligence/Machine Learning

- Deep learning
- Discriminative methods
- Generative methods
- Quantum Machine Learning

Data

- Data bases
- Data mining
- Visualization

Experimental design

Experiments, applications and products

- Quantum sensors and quantum components
- Generative Methods for QT and AI
- QT and AI/ML for multiscale science
- QAI-TALENT and QAI-Software
- Societal and economical impact of QT and AI/ML