

Giordano Scappucci

Quantum Materials

All Materials are Quantum

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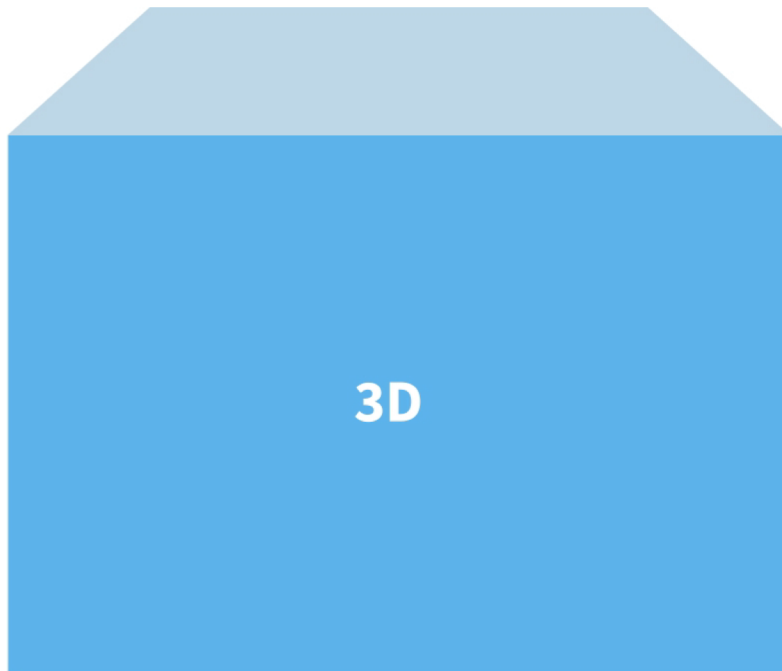


73%

But often a classical description does the job

Quantum Materials go beyond classical understanding

Quantum Materials go beyond classical understanding



Quantum Materials go beyond classical understanding

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The first quantum revolution changed our daily life

The second quantum revolution engineers quantum matter to develop disruptive technologies



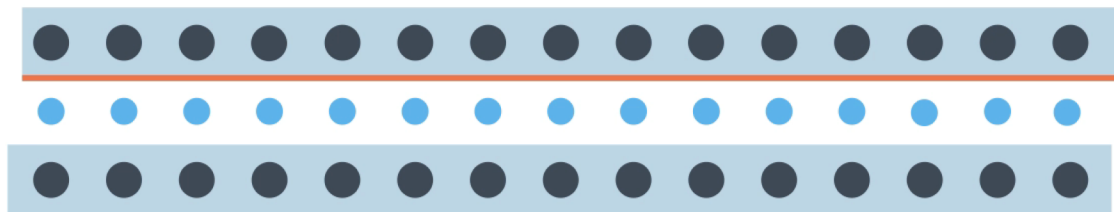
The second quantum revolution engineers quantum matter to develop disruptive technologies

Making of Quantum Materials

Making of Quantum Materials



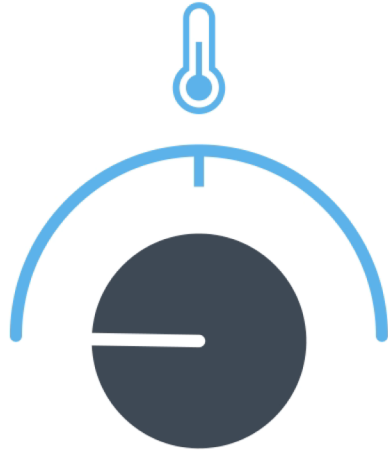
We quantum engineer the physical properties of materials by using quantum confinement, strain and material composition



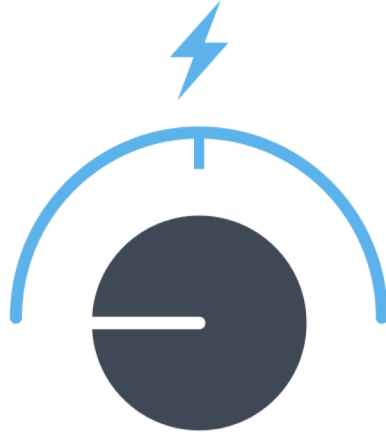
SiGe
Silicon
SiGe

Measuring of quantum materials

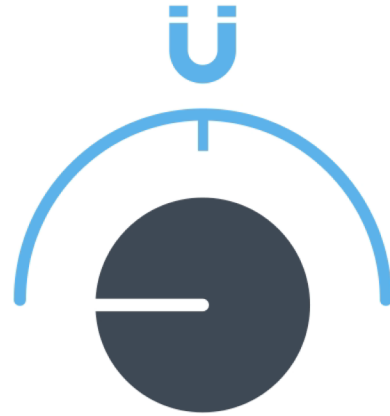
Measuring of quantum materials



Temperature



Electric Field

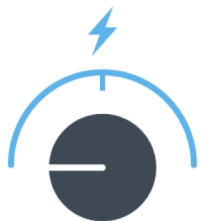


Magnetic Field

Measuring of quantum materials



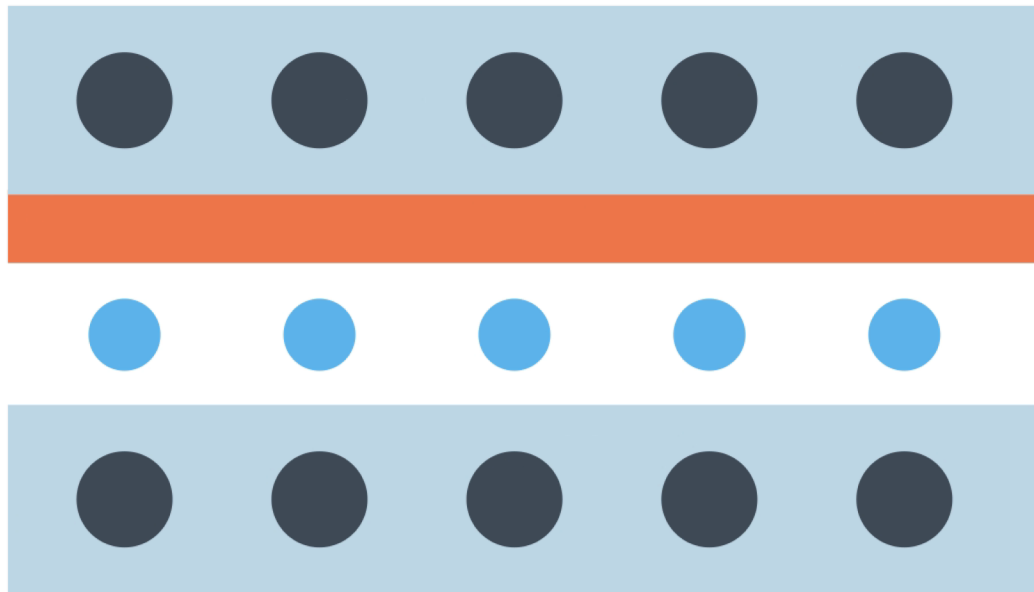
Temperature



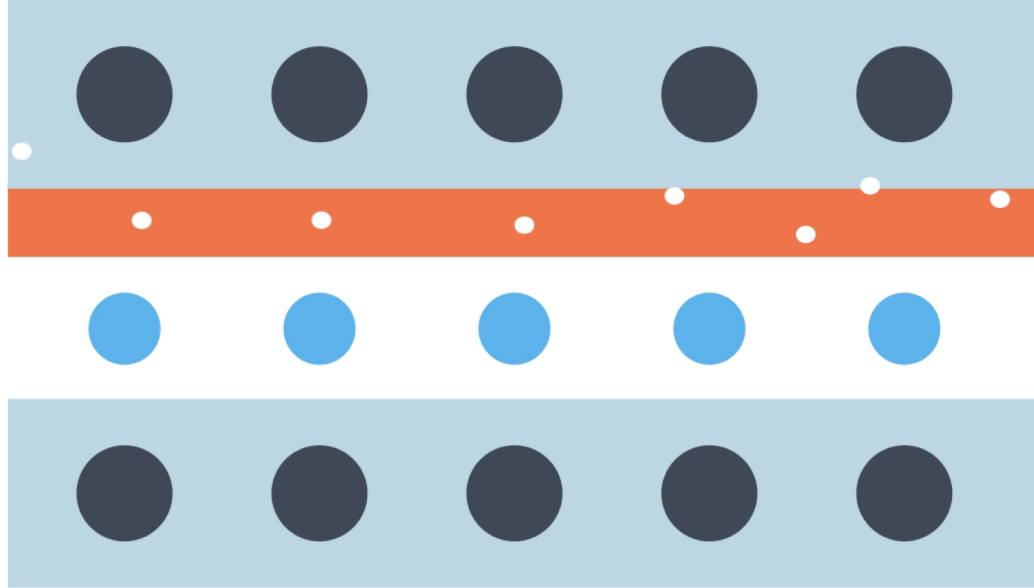
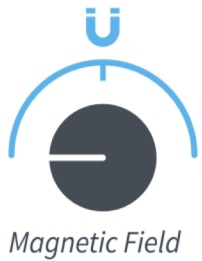
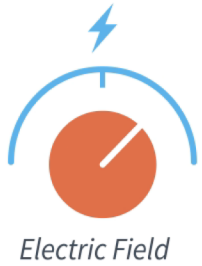
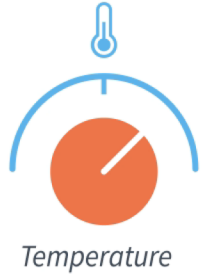
Electric Field



Magnetic Field



Measuring of quantum materials



**Ultimately, quantum materials will be simulated
by quantum computers**

