

# quantum technologies and quantum processes

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# tecnologie quantistiche

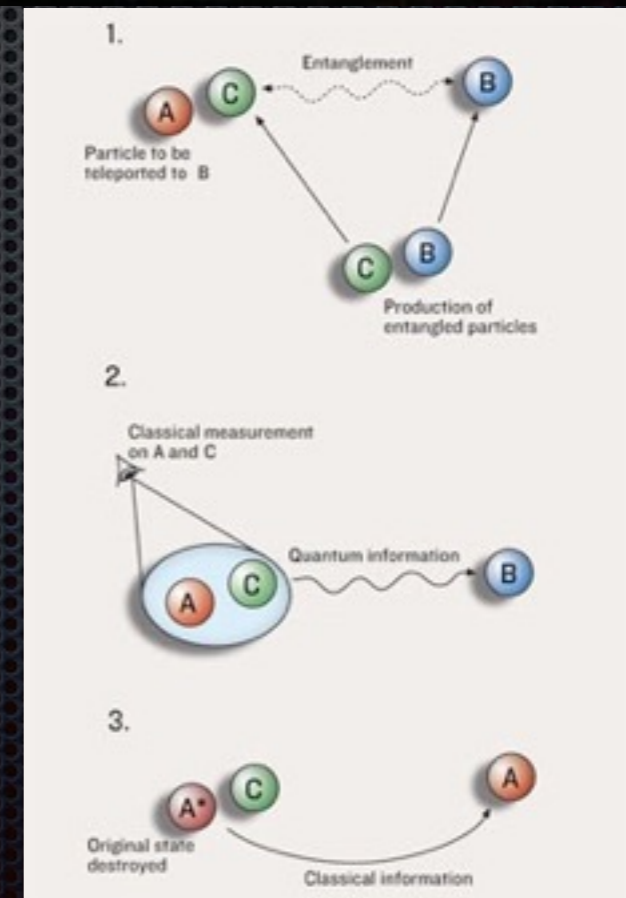
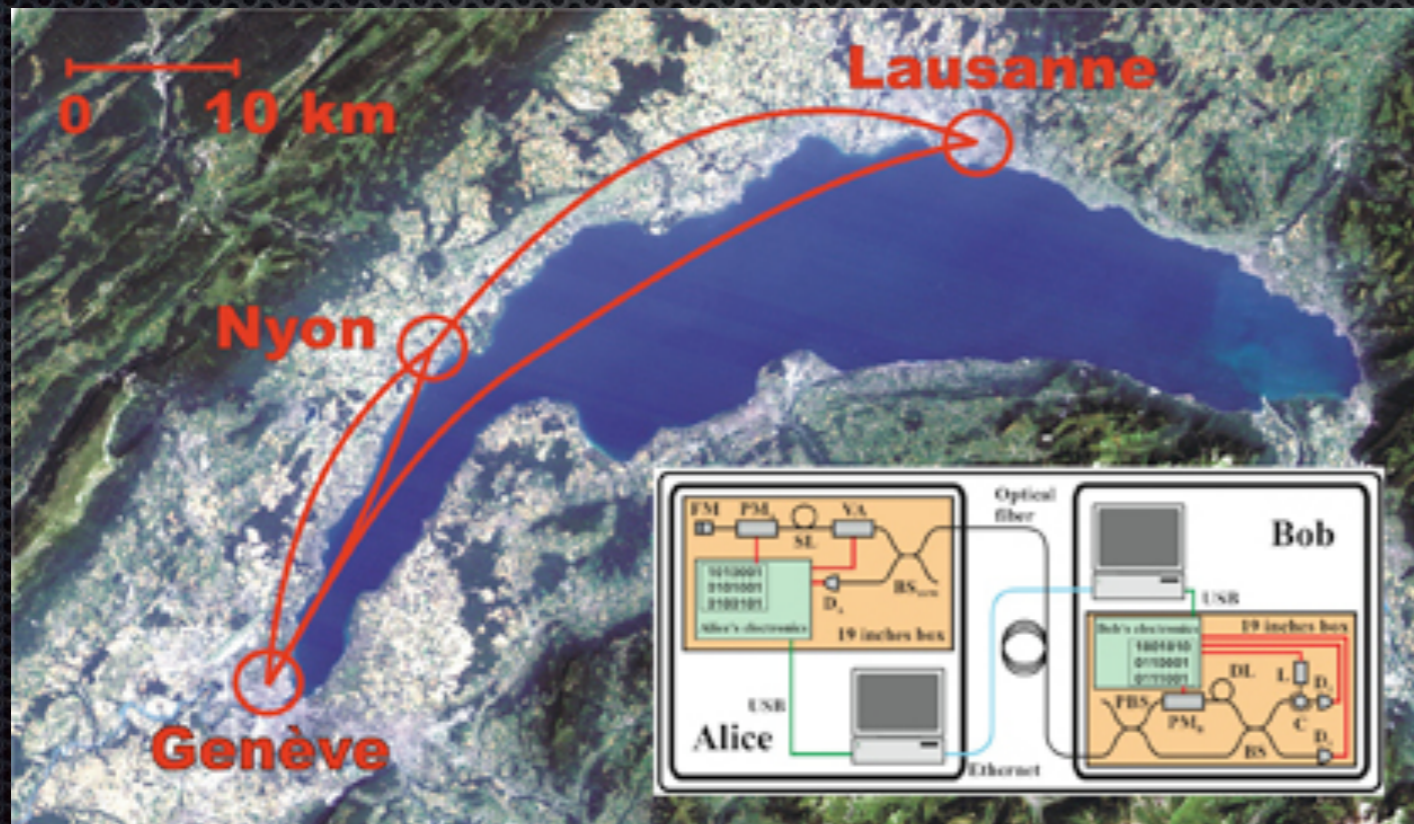
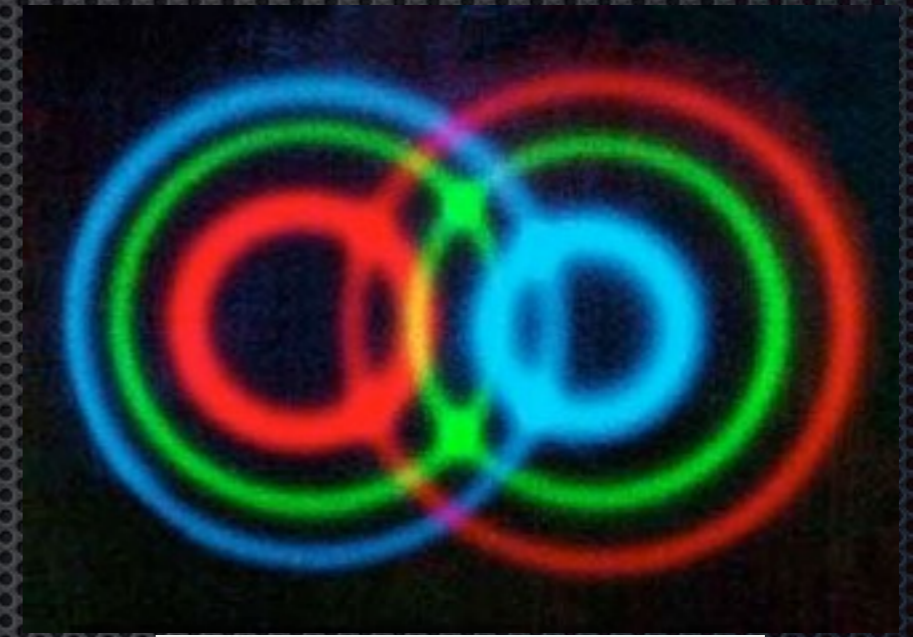
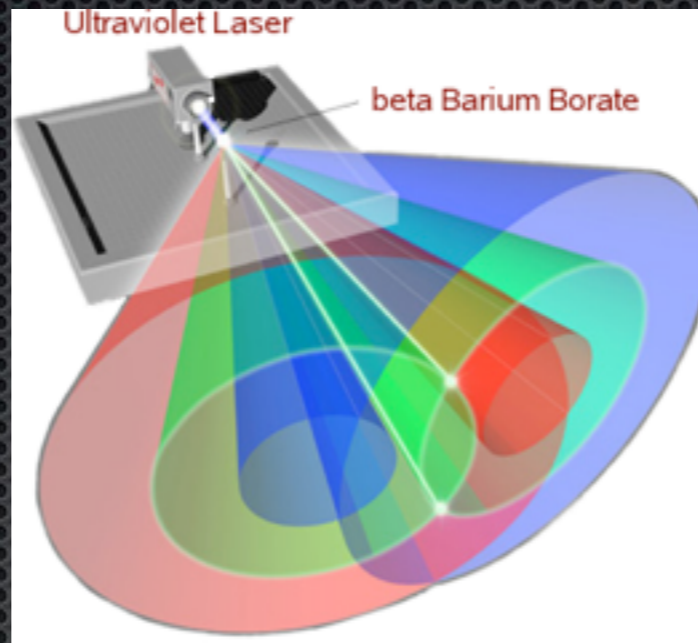
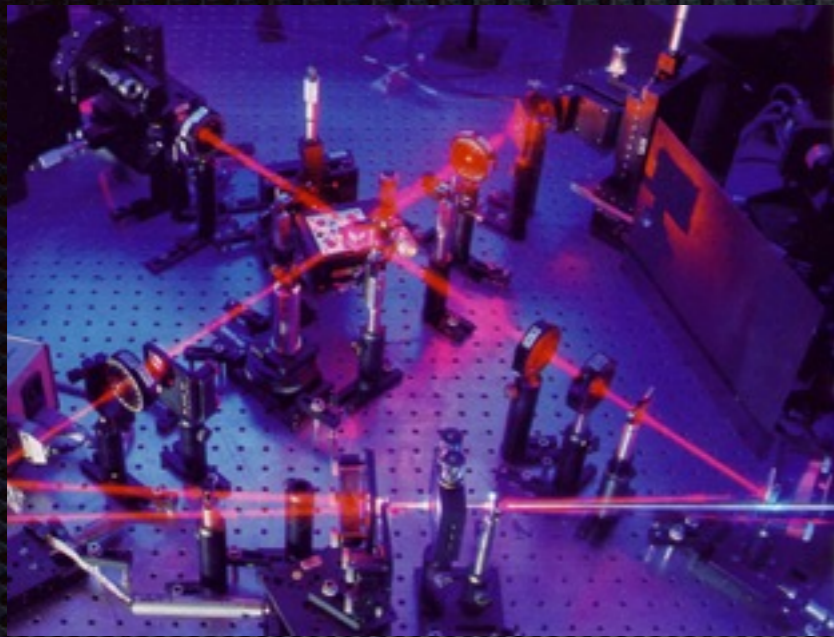
quantum communication

quantum computation

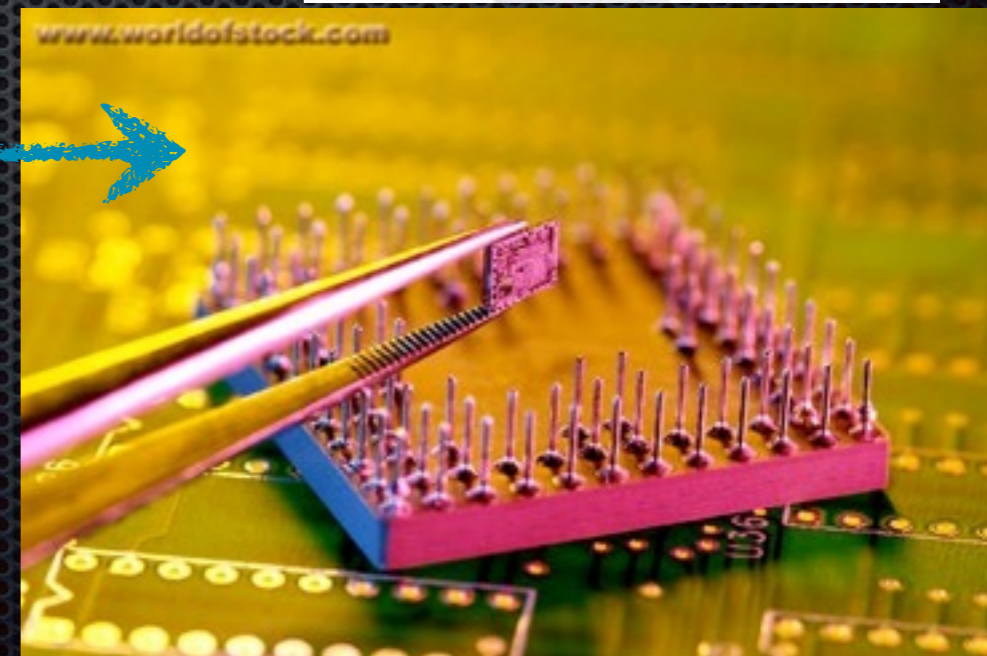
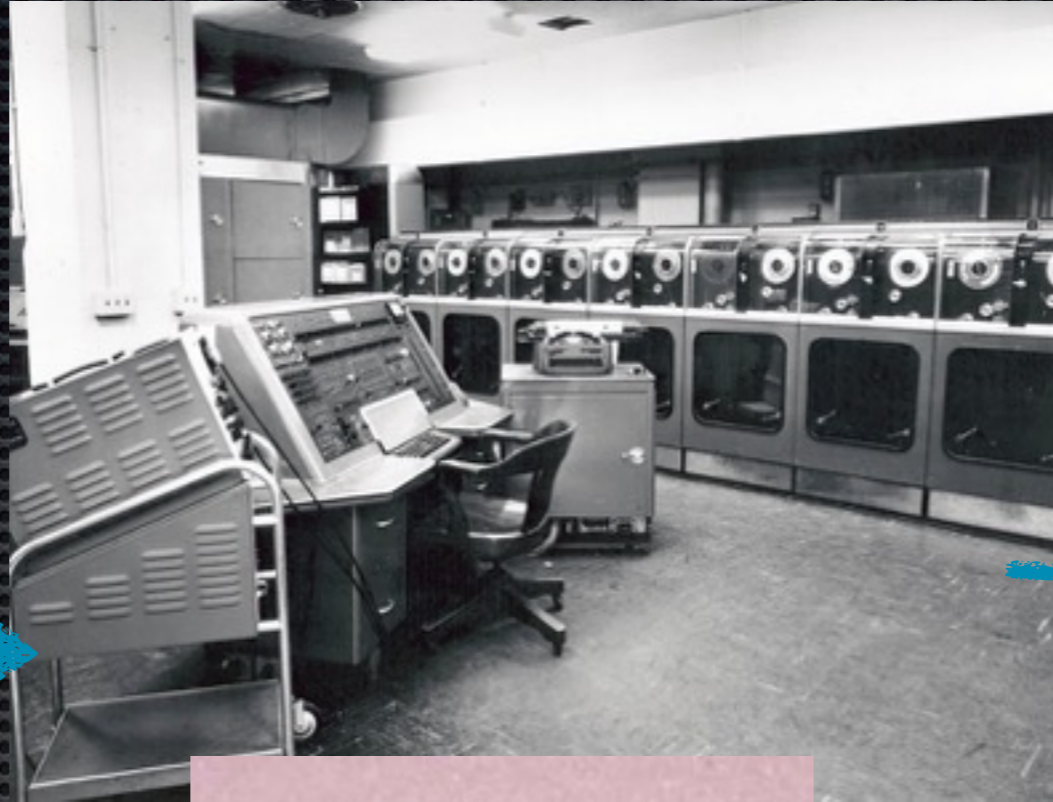
quantum thermodynamics

quantum metrology

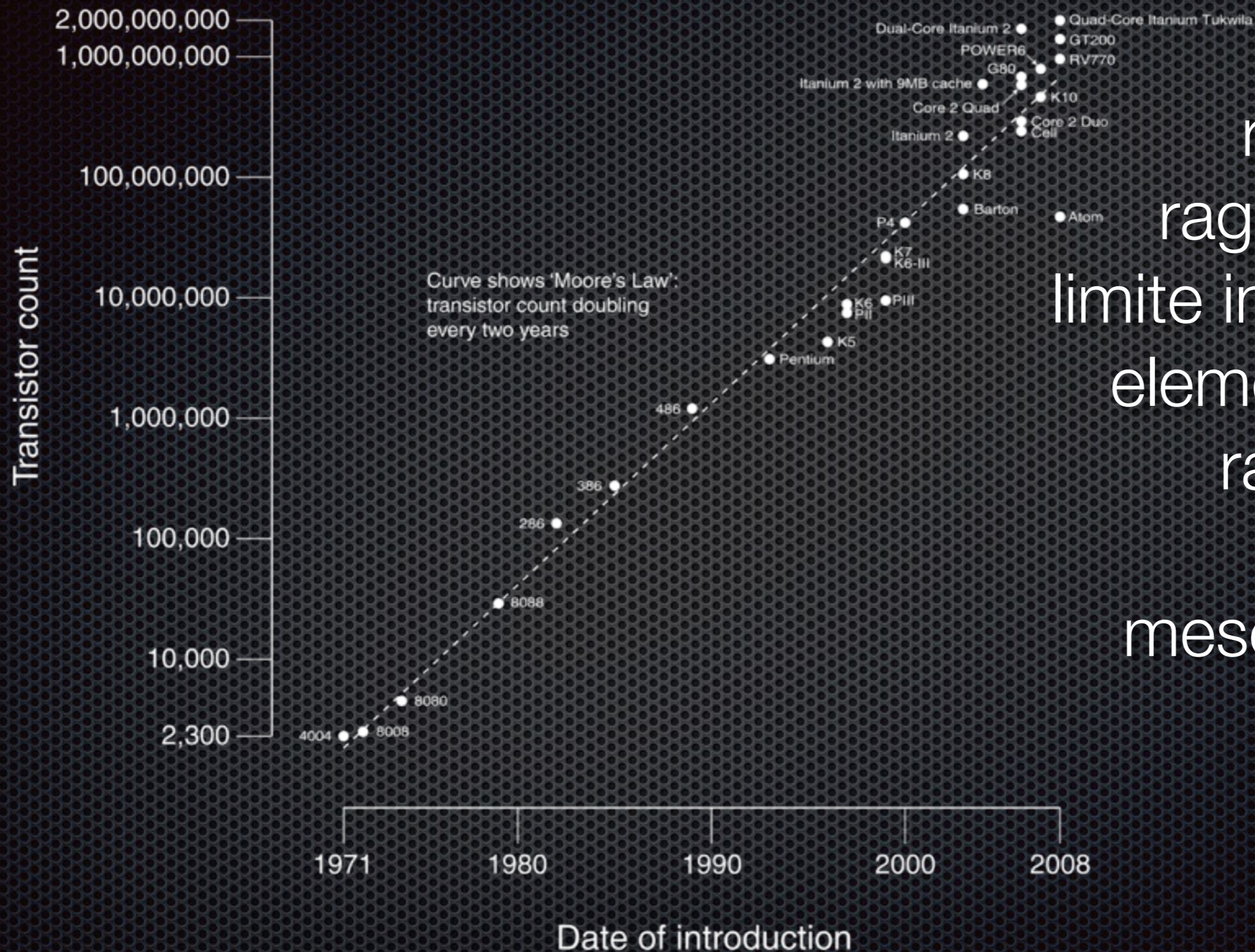
# teletrasporto quantistico, crittografia quantistica



# “Information is physical”



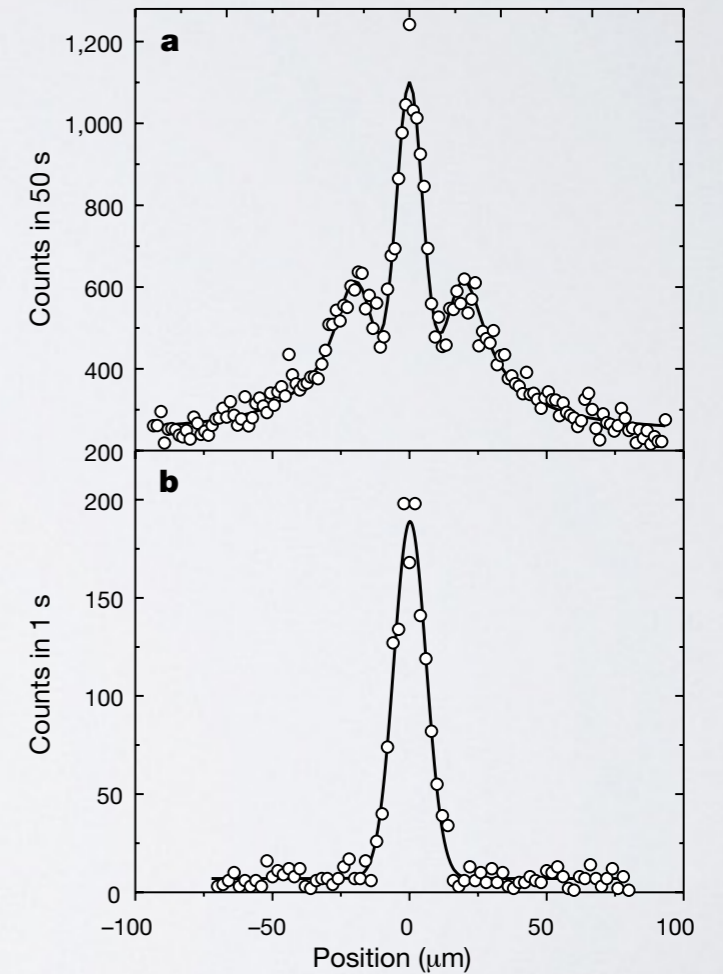
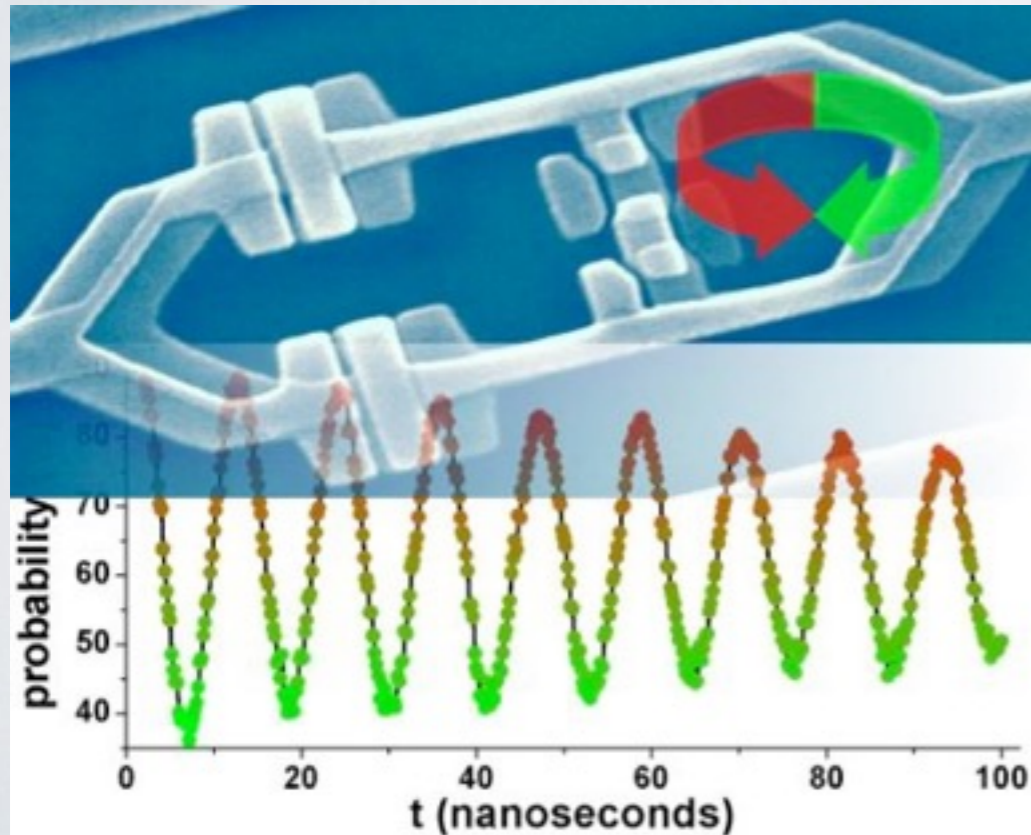
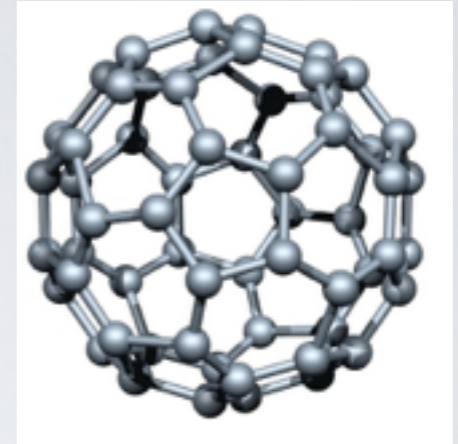
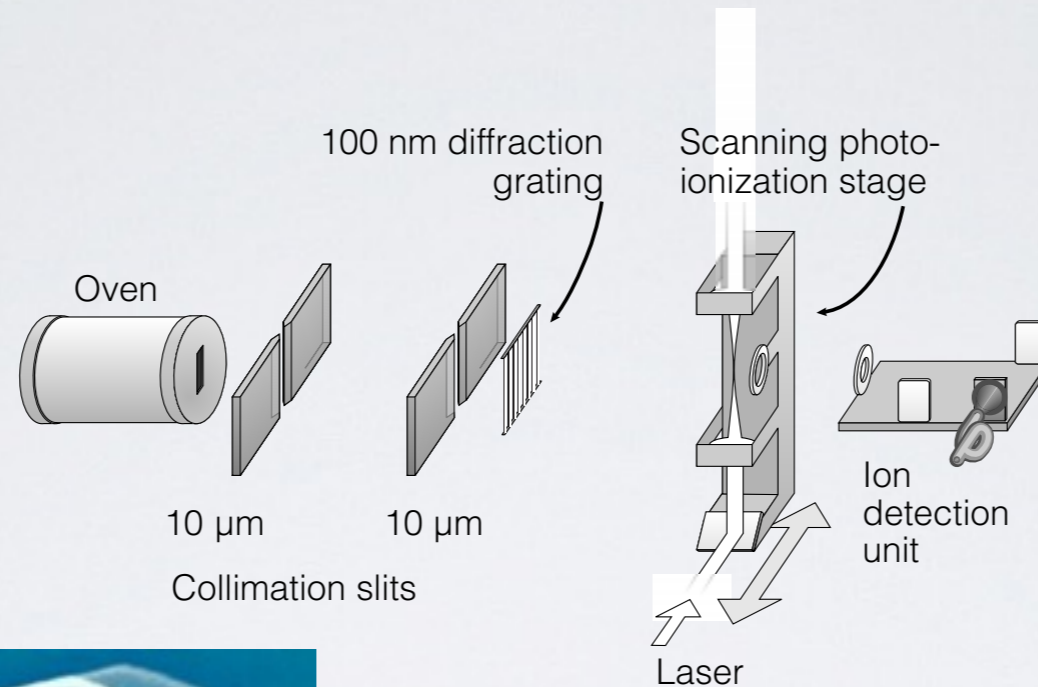
# CPU Transistor Counts 1971-2008 & Moore's Law



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raggiungendo il  
limite in cui i singoli  
elementi circuitali  
raggiungono  
dimensioni  
mesoscopiche o  
addirittura  
atomiche

# SU SCALA ATOMICA EMERGE UN COMPORTAMENTO QUANTISTICO

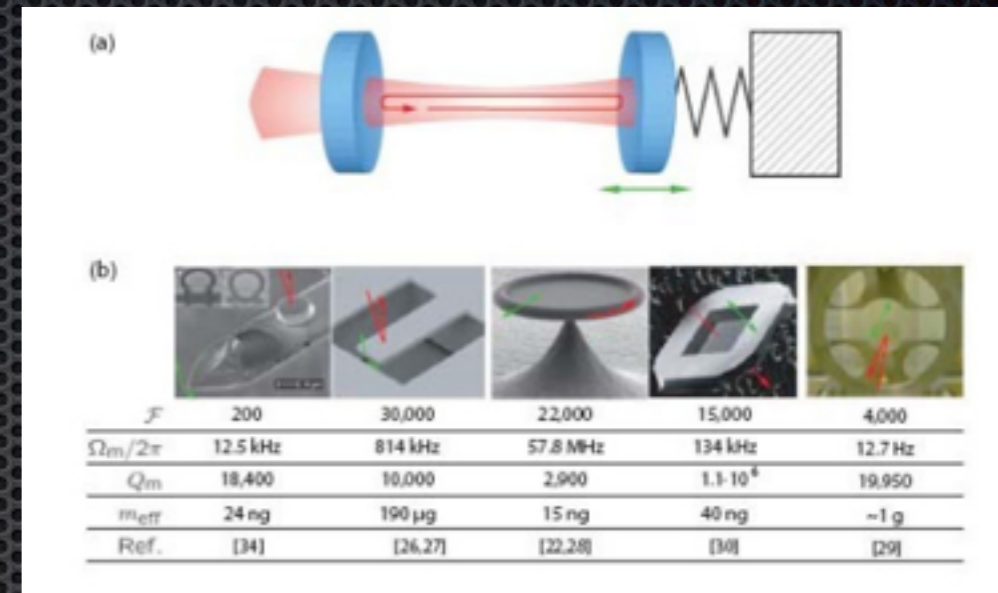
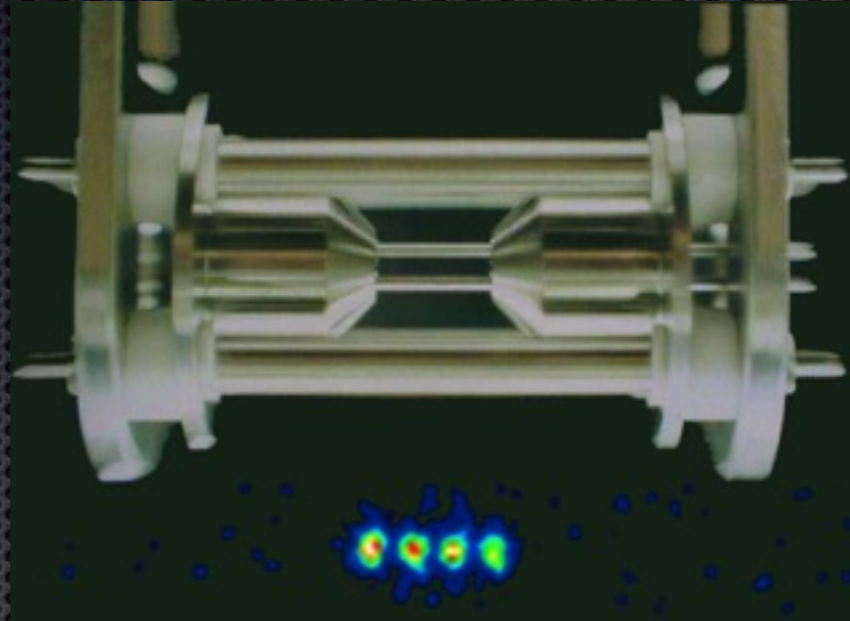
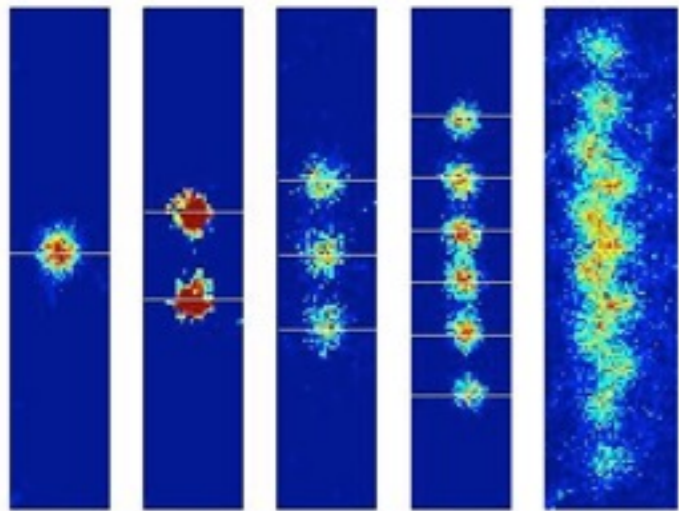
diffrazione di  
fullereni



**Figure 2** Interference pattern produced by C<sub>60</sub> molecules. **a**, Experimental recording (open circles) and fit using Kirchhoff diffraction theory (continuous line). The expected zeroth and first-order maxima can be clearly seen. Details of the theory are discussed in the text. **b**, The molecular beam profile without the grating in the path of the molecules.

box superconduttore

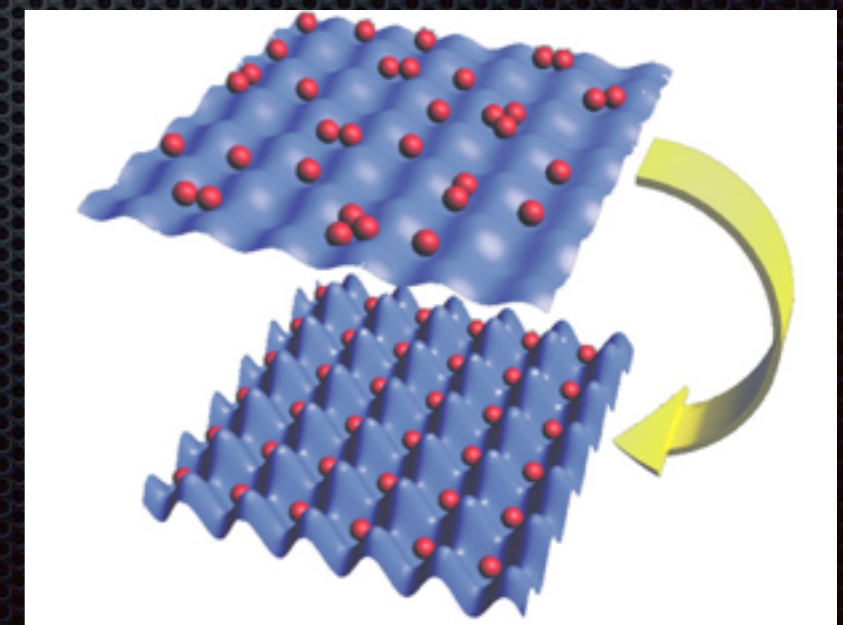
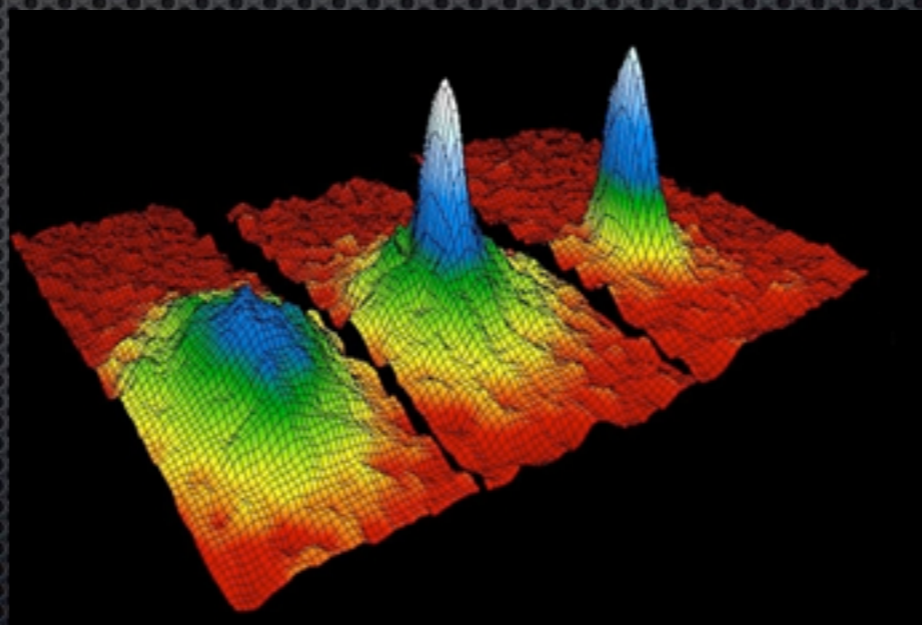
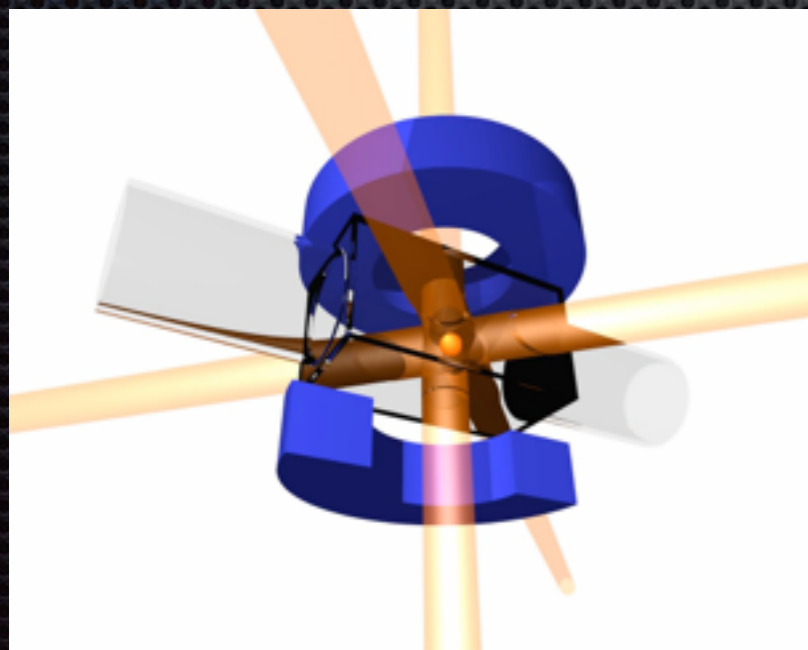
# sistemi atomici



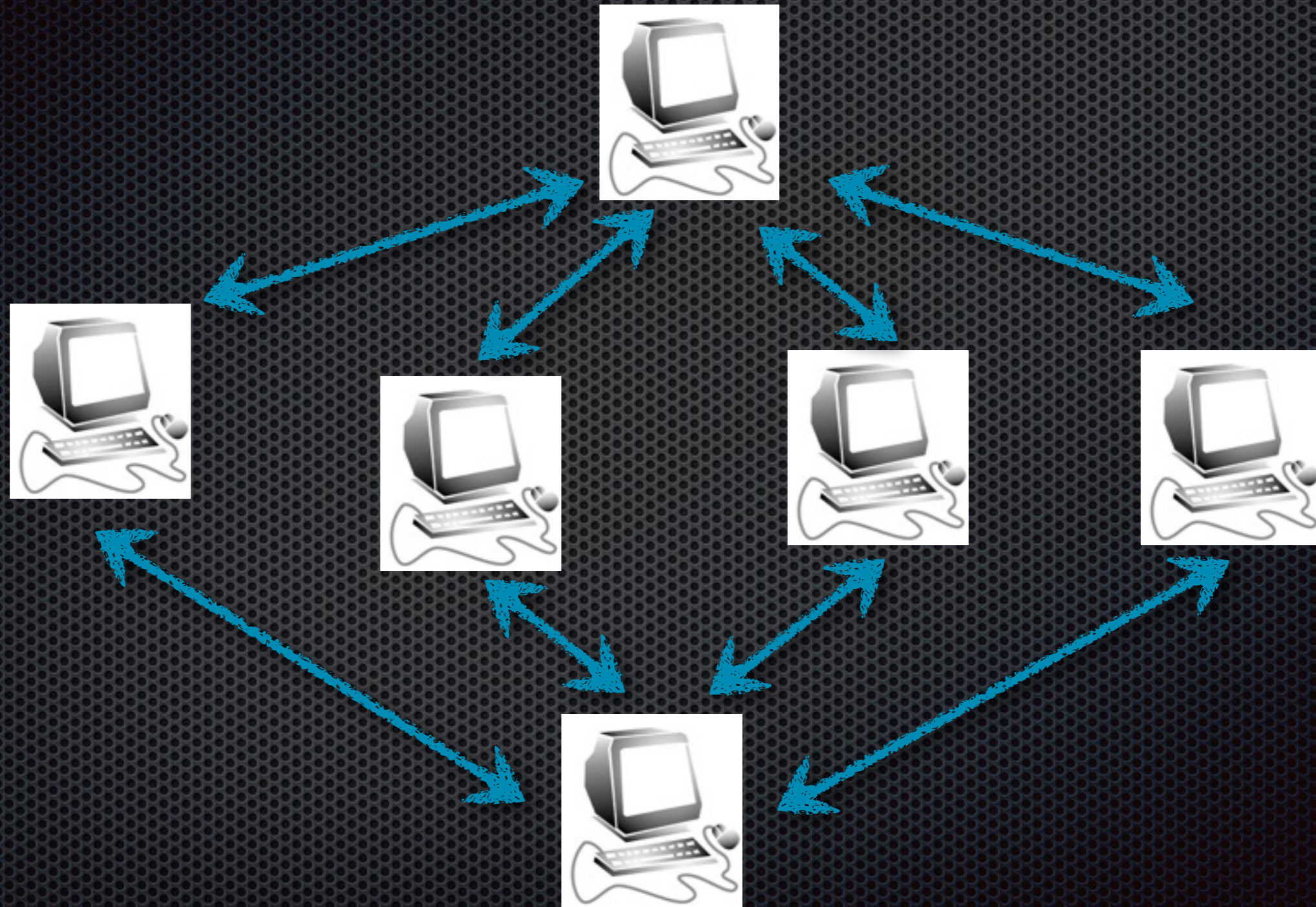
ioni in trappola

quantum  
optomechanics

condensati di Bose Einstein

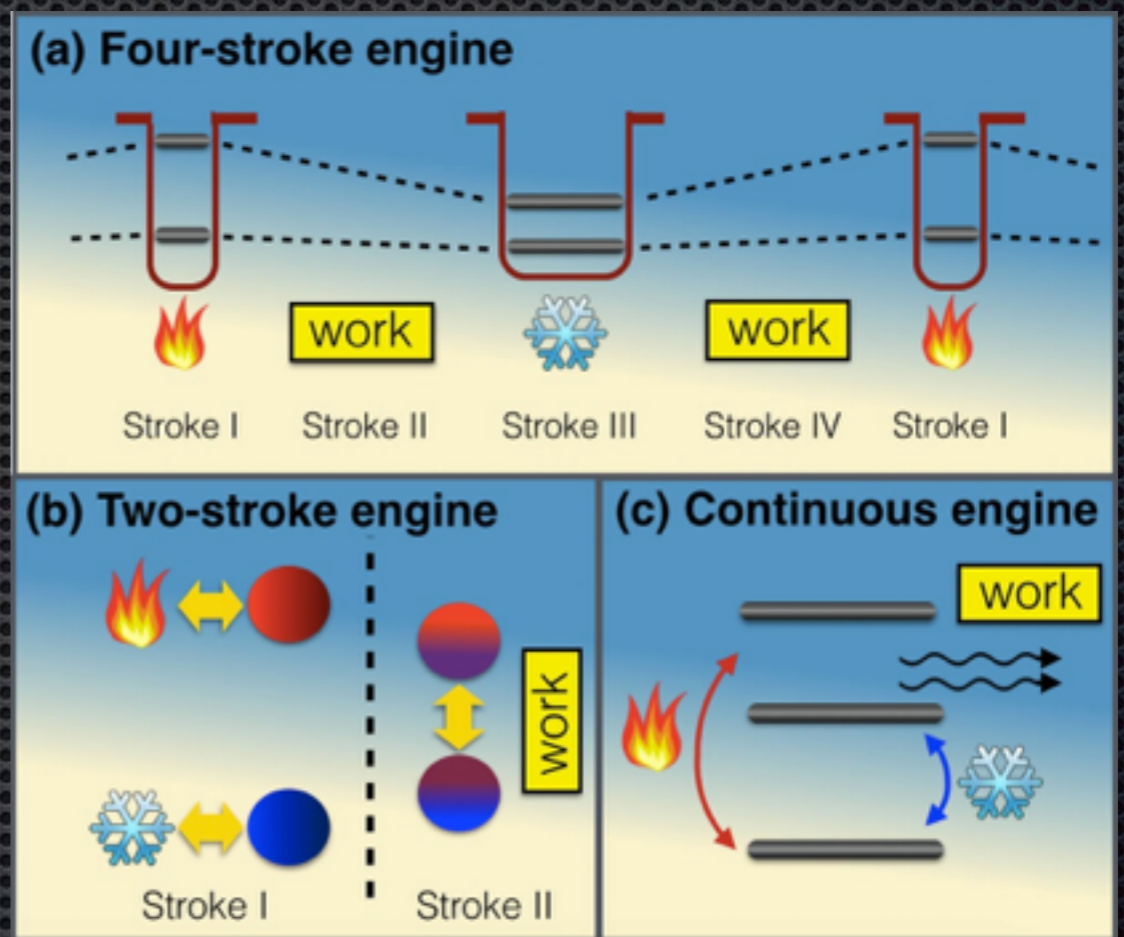
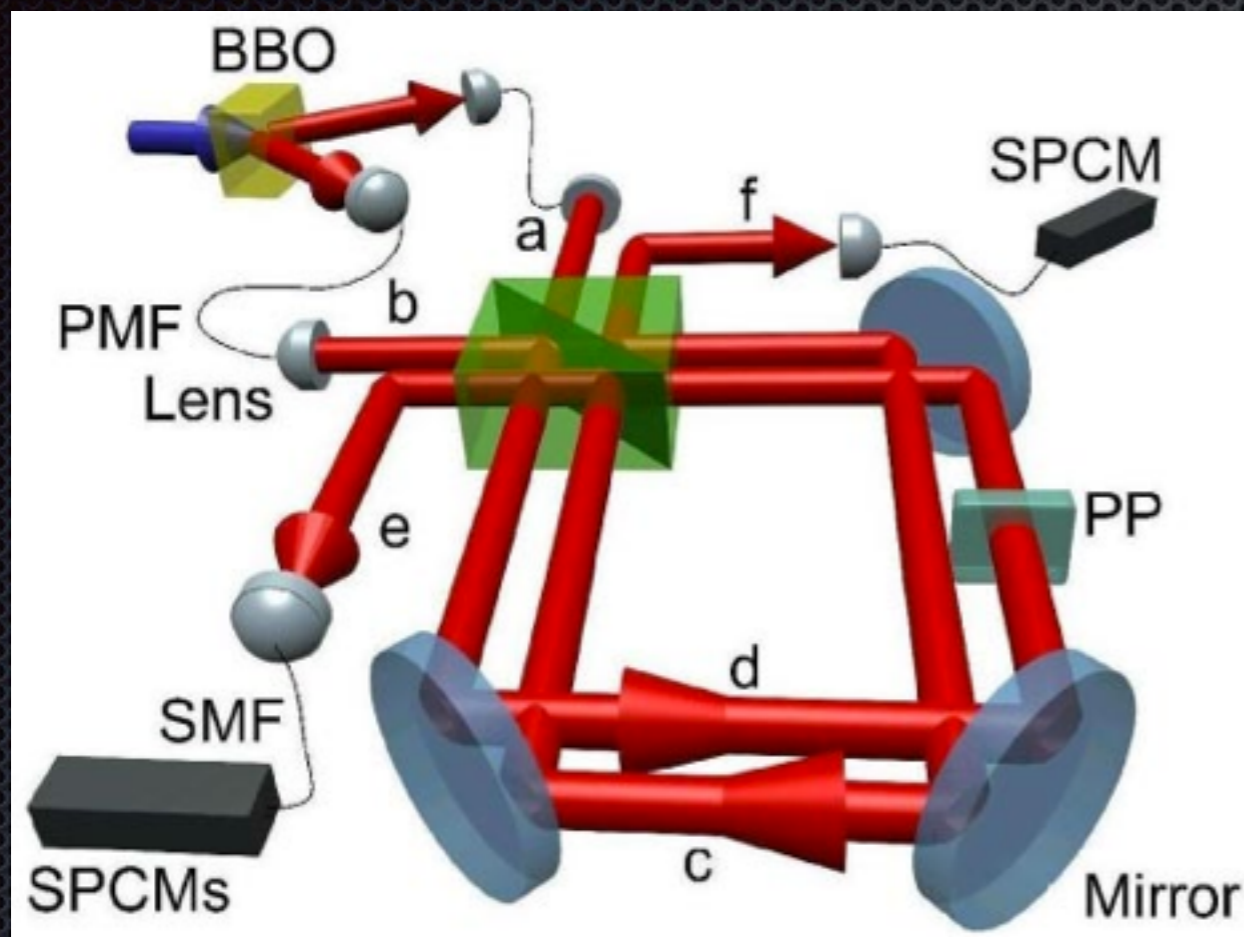


# interferenza quantistica e computers quantistici





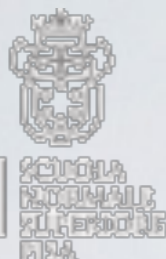
# quantum metrology



# quantum thermodynamics

# CON CHI COLLABORIAMO

NEST



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# NETWORKS NAZIONALI ED INTERNAZIONALI

