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2003



The Nobel Prize in Physics
2003

jyu@snu.ac.kr



The Nobel Prize in Physics 2003



"for pioneering contributions to the theory of superconductors and superfluids"

“ ... ”



photo PRB

Alexei A. Abrikosov

1/3
: USA and Russia
:



photo PRB

Vitaly L. Ginzburg

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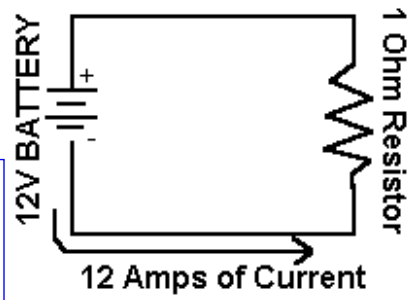
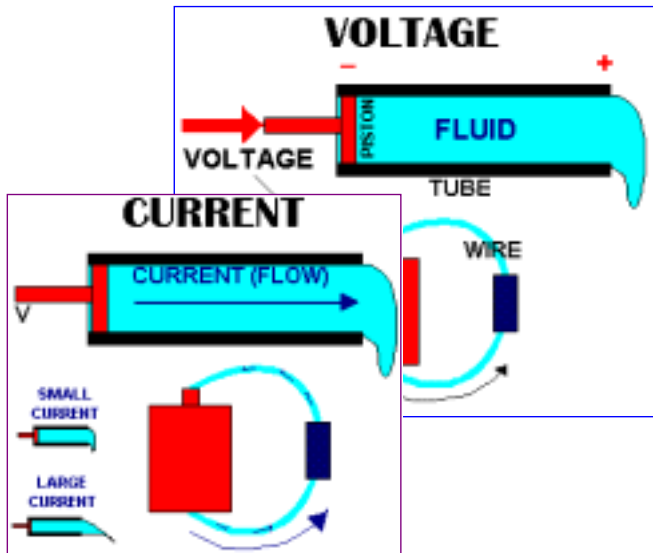
photo Bill Wiegand/UIUC

Anthony J. Leggett

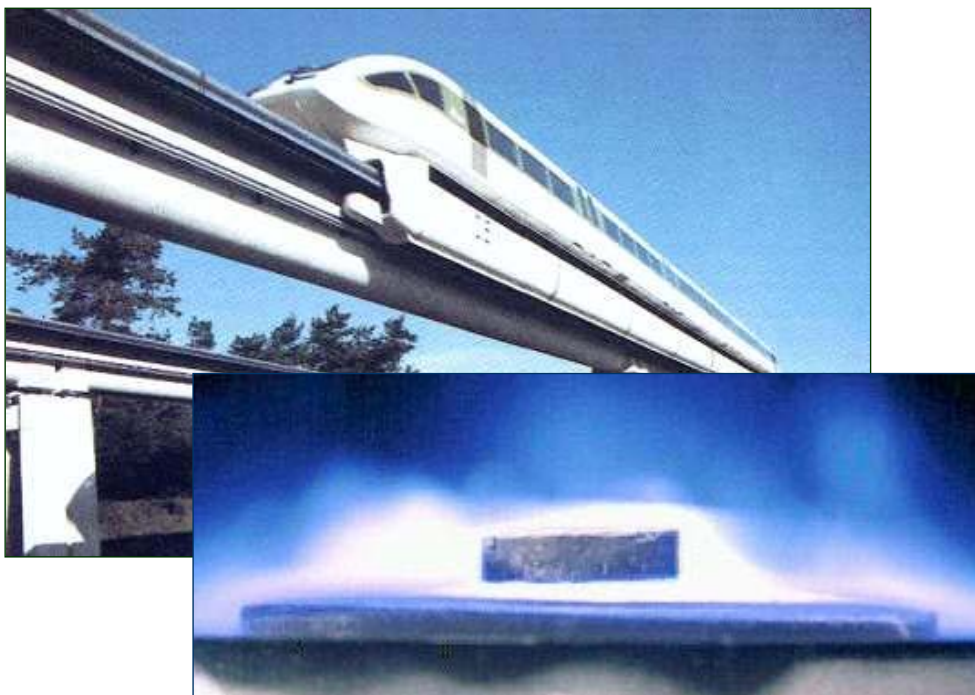
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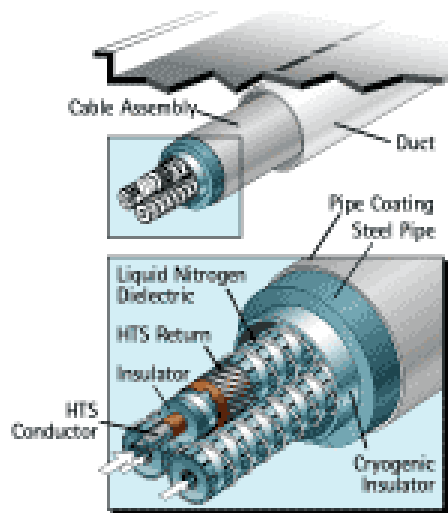
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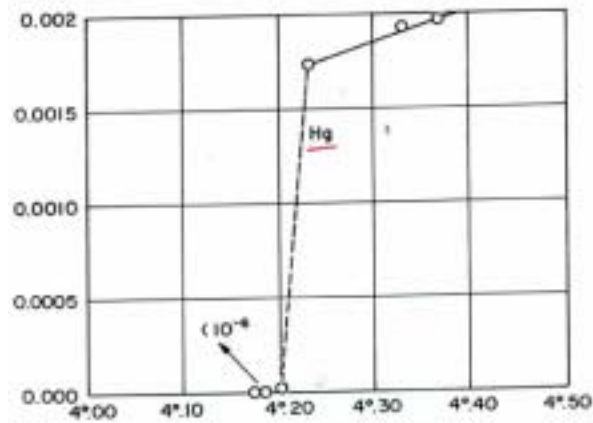
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$$V = I \times R$$
$$I = \frac{V}{R} \text{ or } R = \frac{V}{I}$$

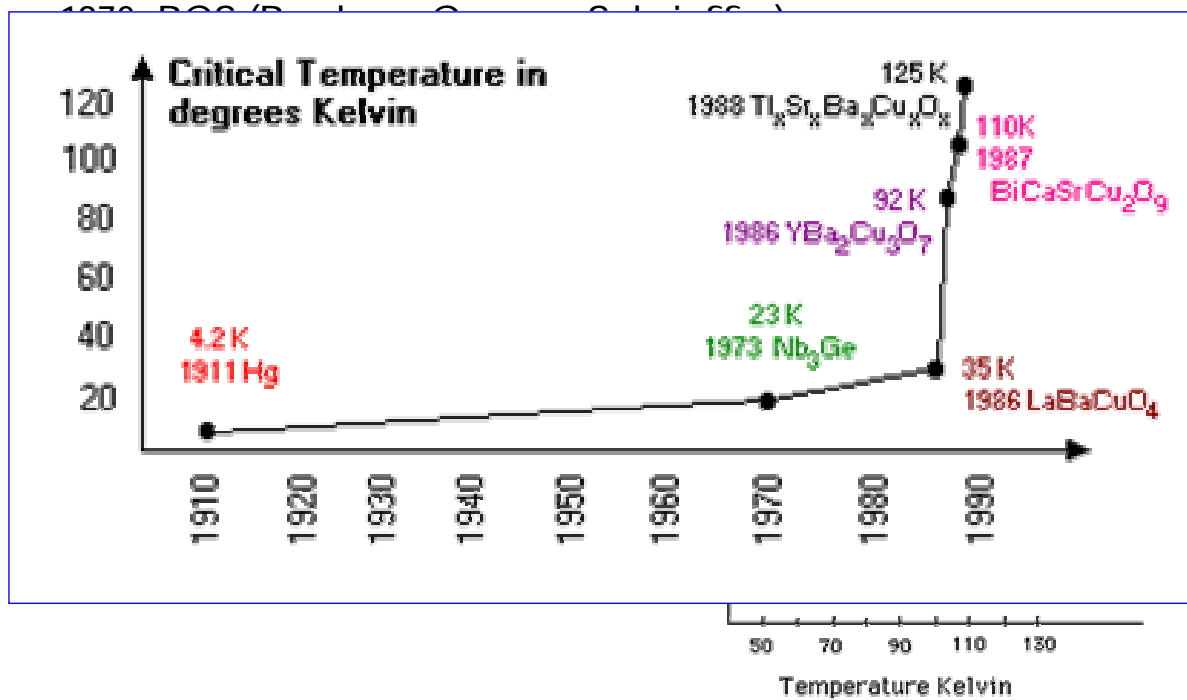




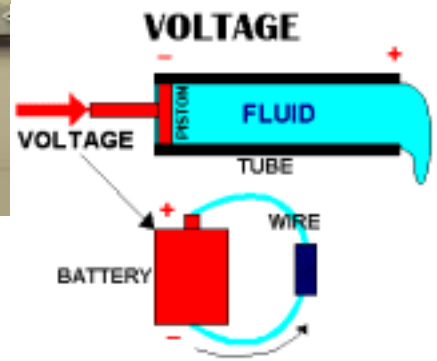
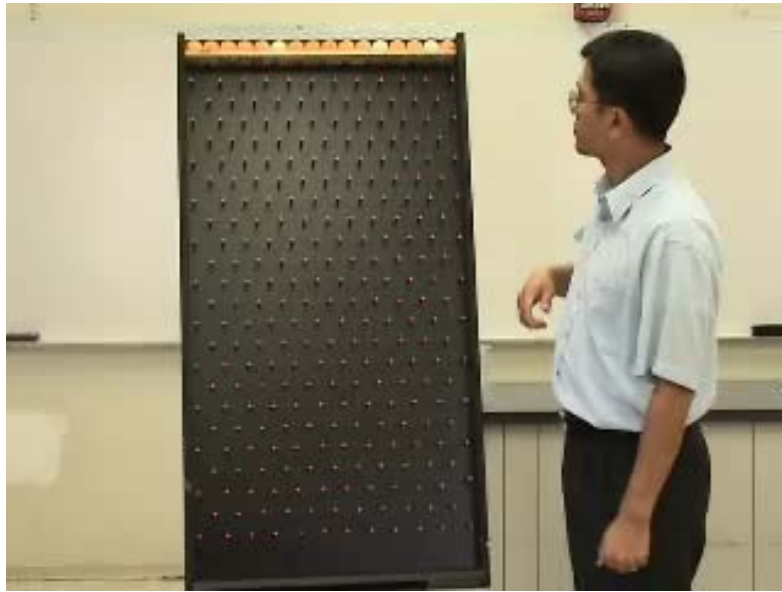


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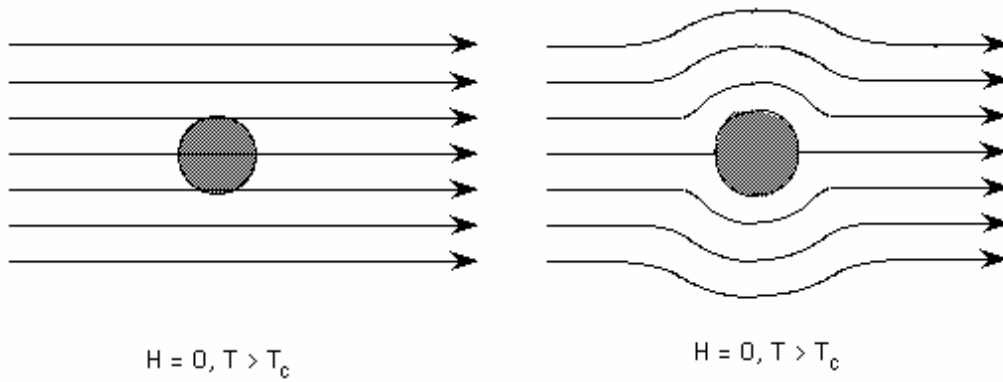


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(Meissner)

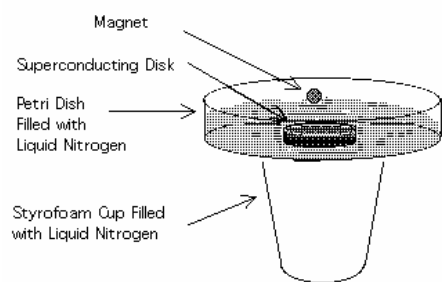


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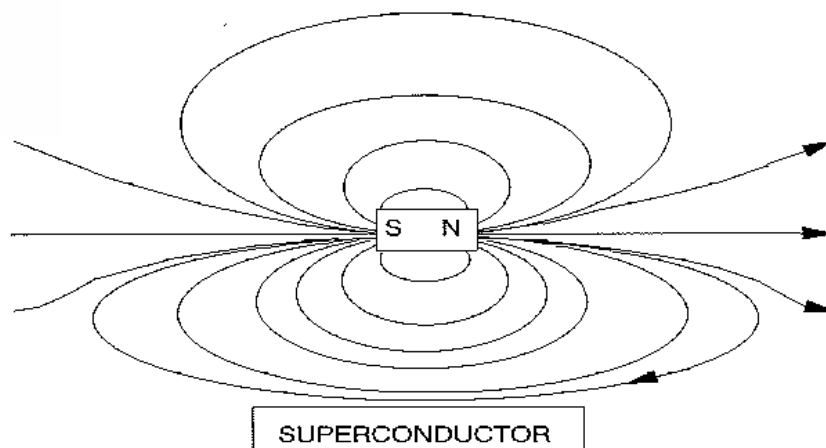


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Meissner Effect



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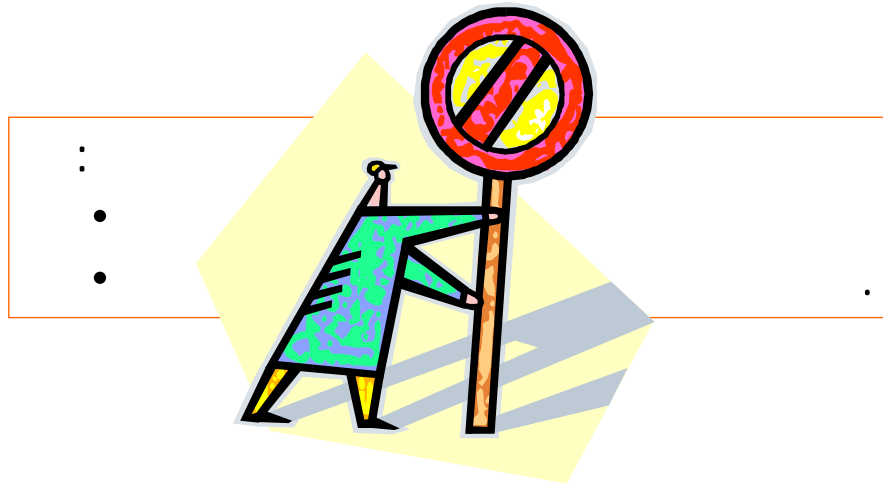


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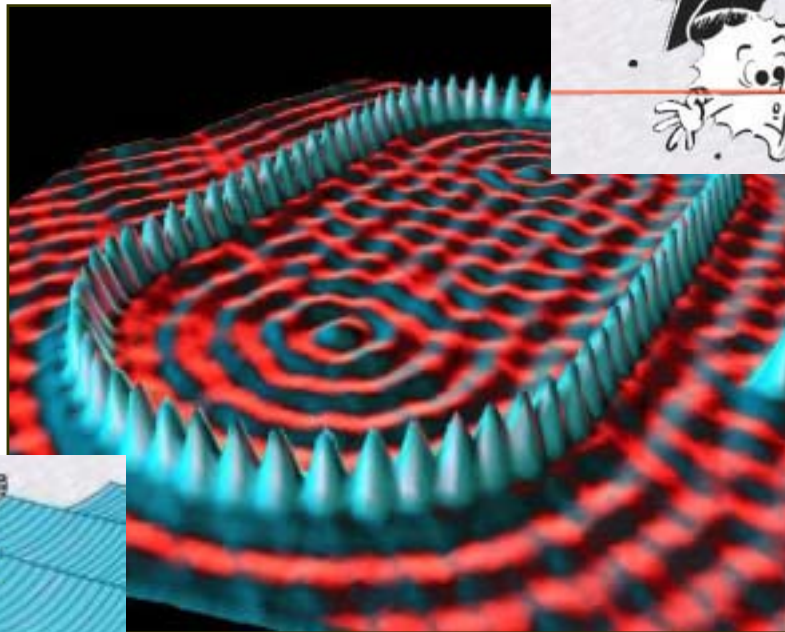
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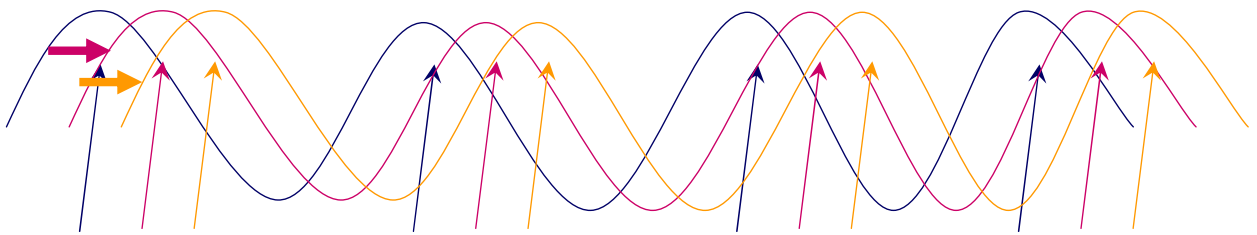


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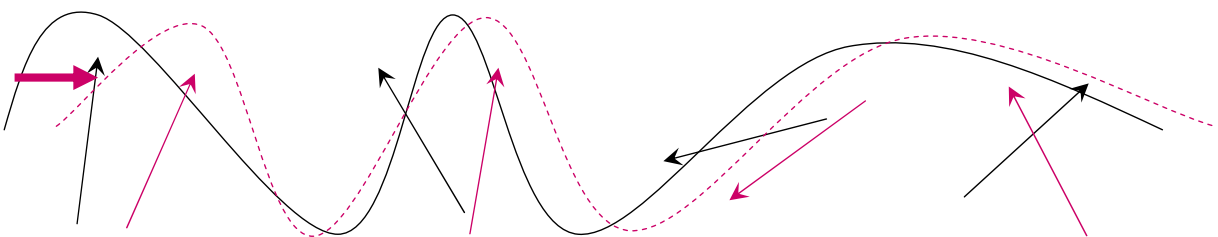
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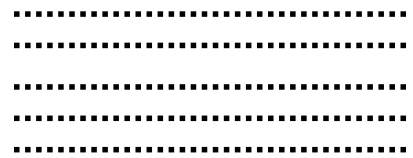
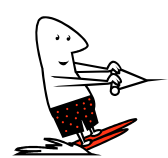
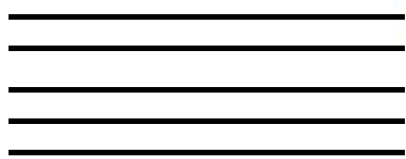
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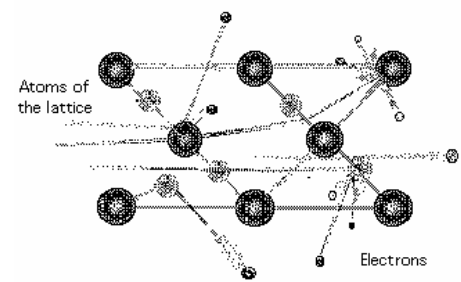


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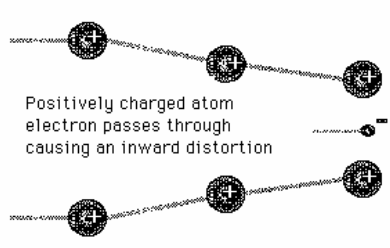


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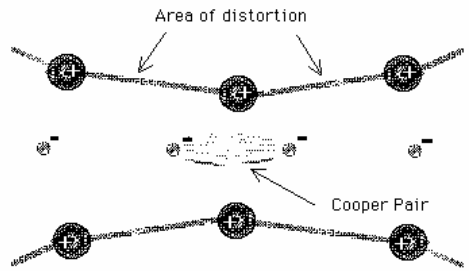
Normal State



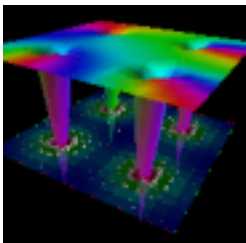
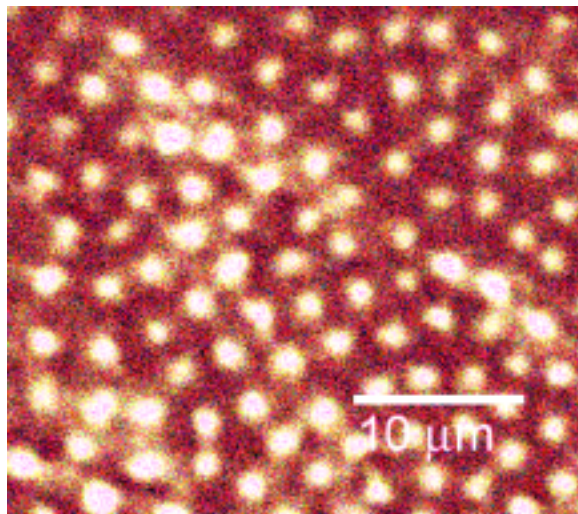
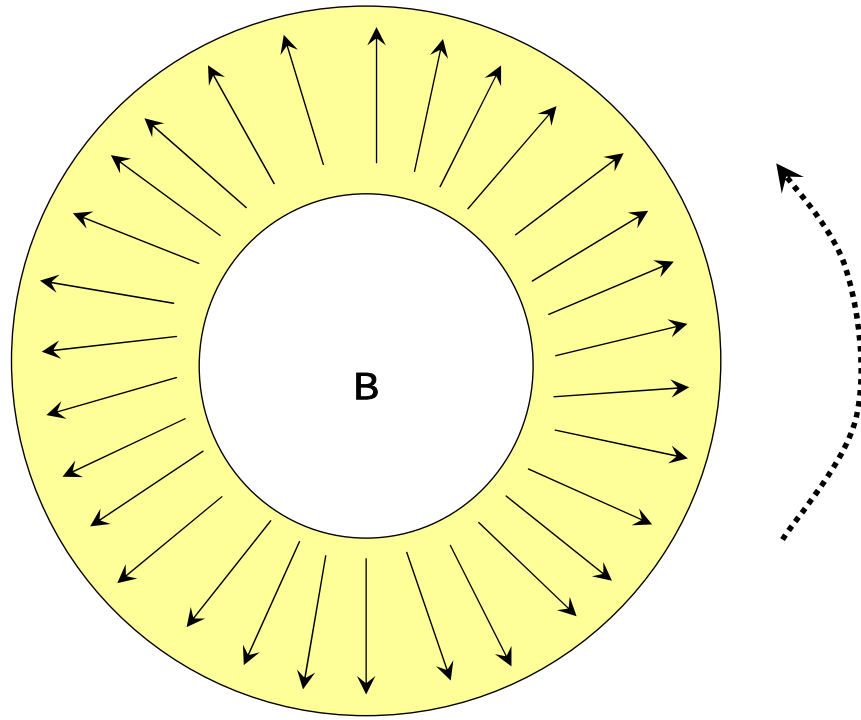
Superconducting State



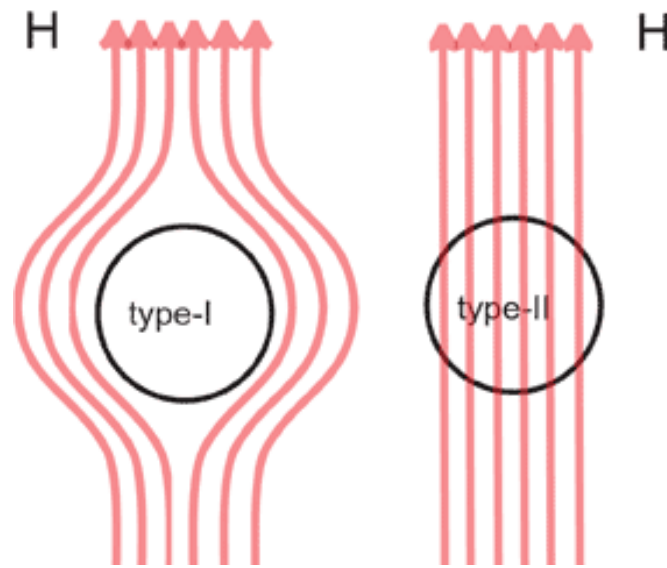
Superconducting State



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Josephson Effect

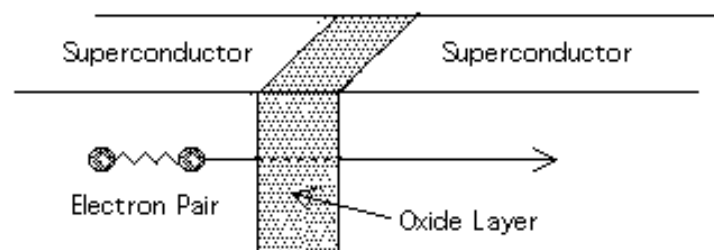
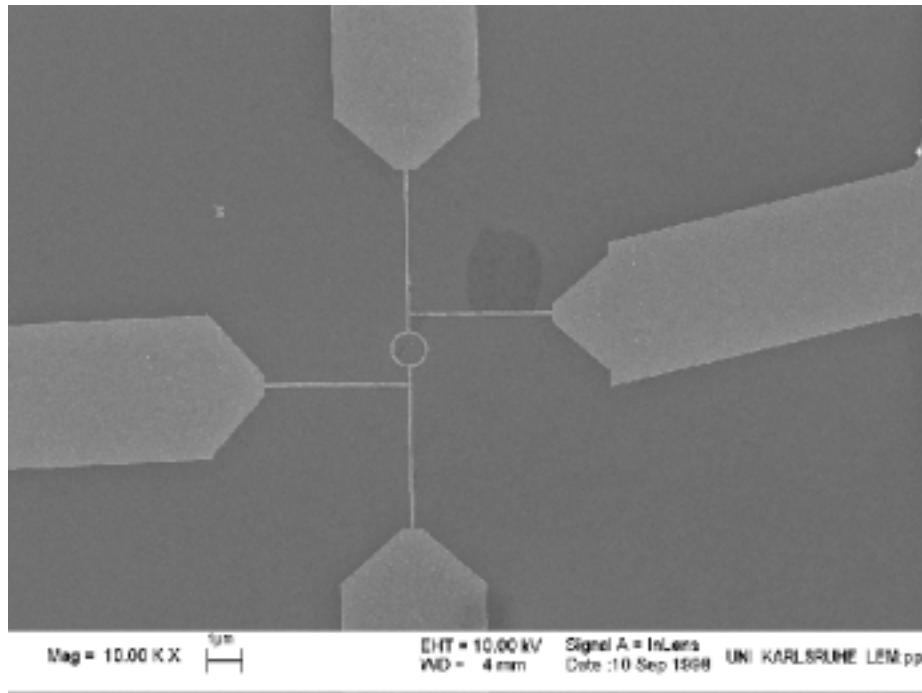
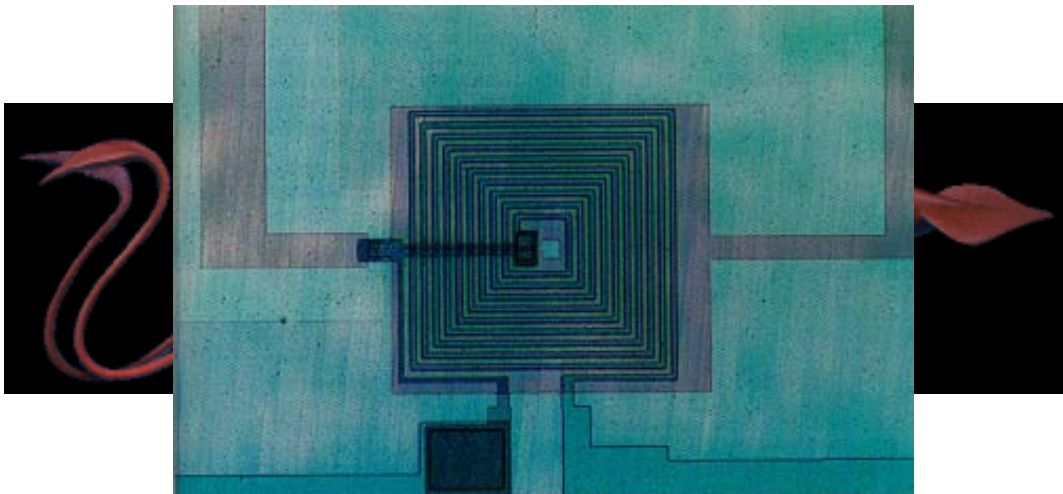


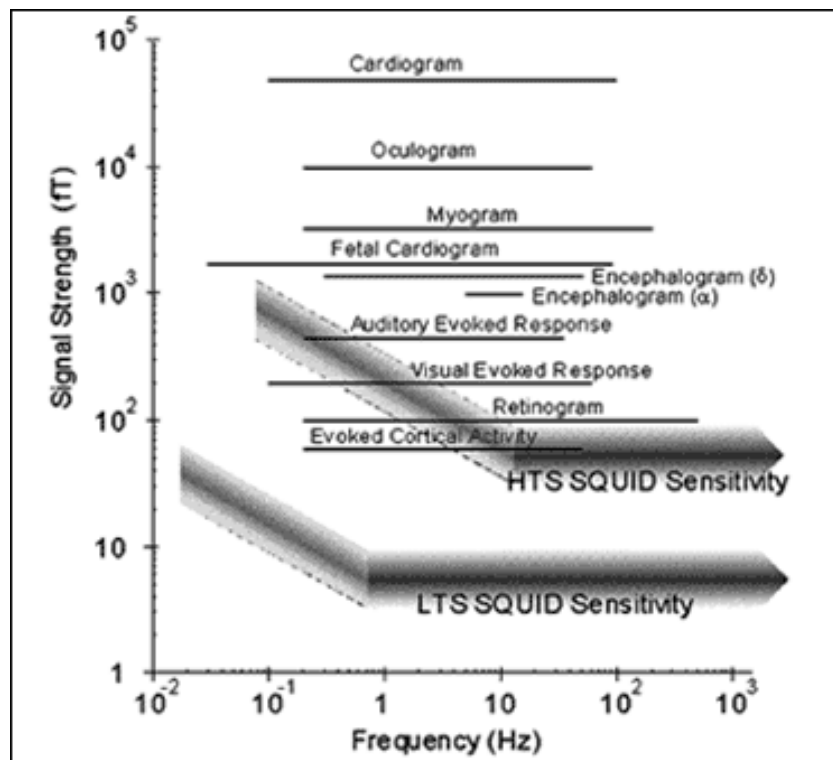
Fig. 13



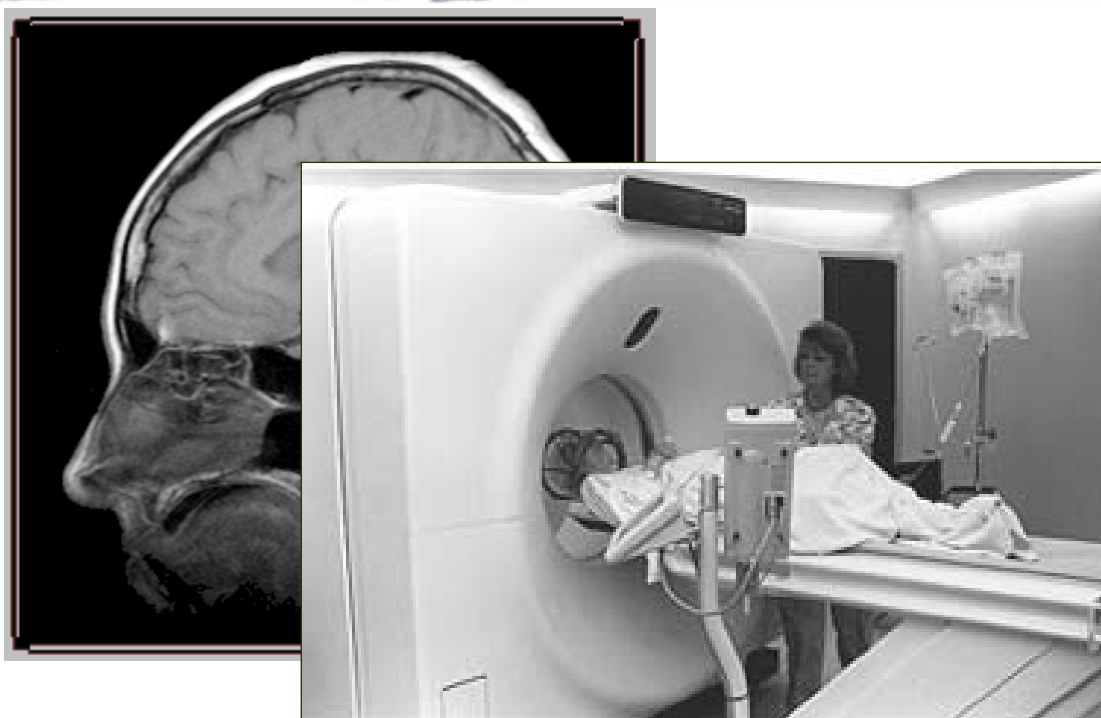
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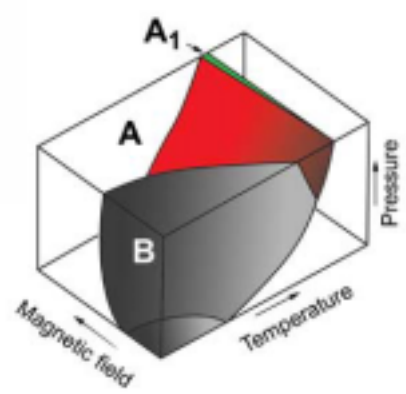
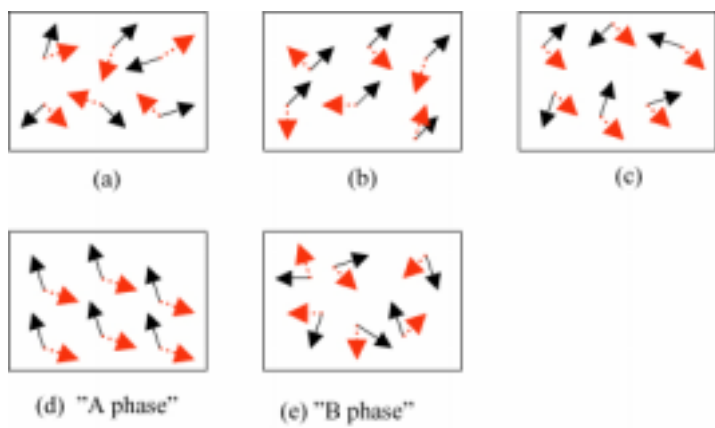
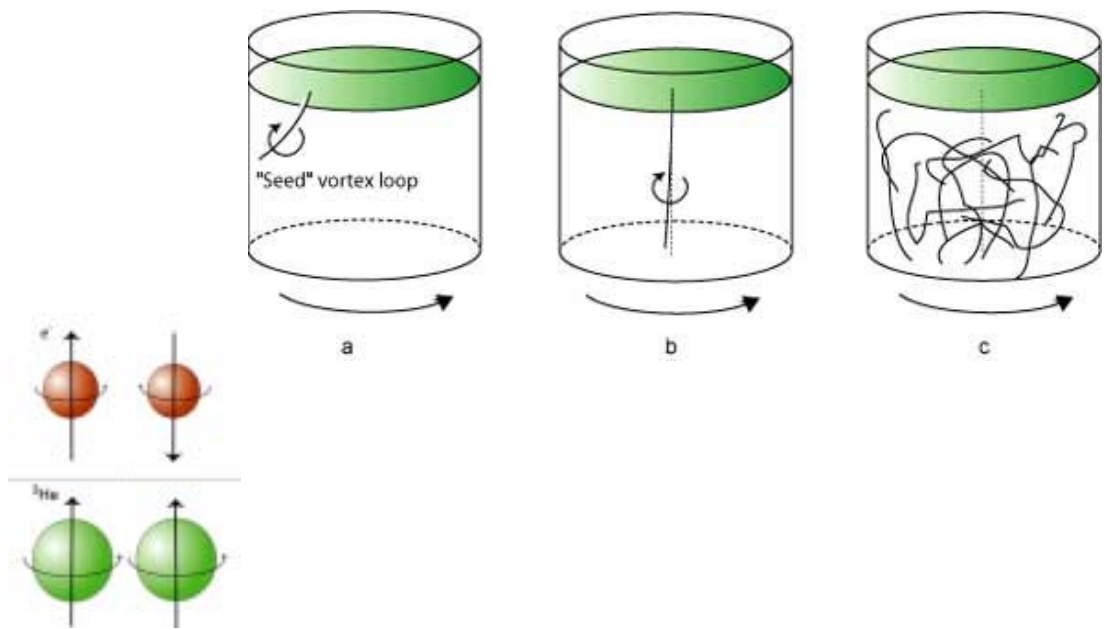
Superconducting Quantum Interferometric Device





MRI (Magnetic Resonance Imaging)







Dr. Callaway, may I be excused? My brain is full."

Knowledge vs. Imagination



"Knowledge is power."

-- Sir Francis Bacon (1561 - 1626)

"Science does not know its debt to imagination."

-- Ralph Waldo Emerson (1803 - 1882)

"Imagination is more important than knowledge."

-- Albert Einstein (1879 - 1955)

"Science is a way of thinking much more than it is a body of knowledge."

-- Carl Sagan (1934 - 1996)

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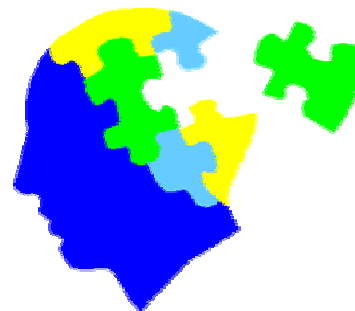
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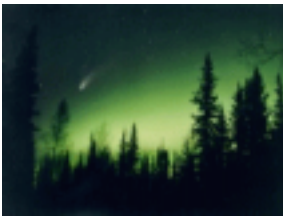
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