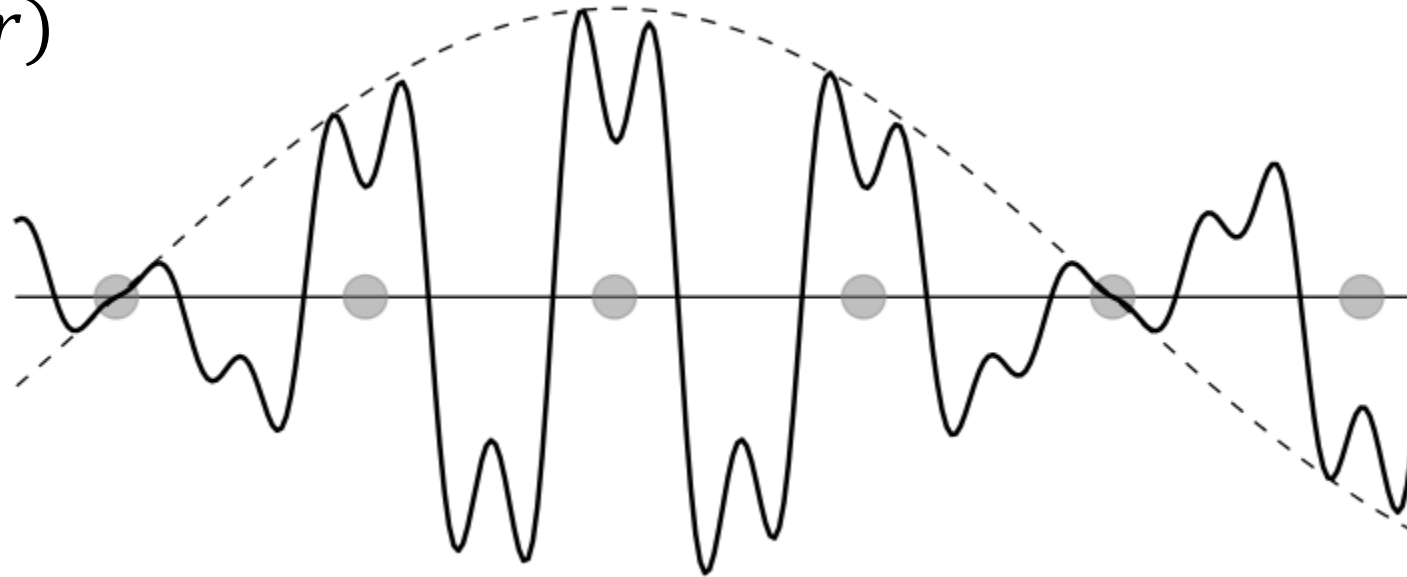


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November 09, 2018

Bloch Wave in 1D

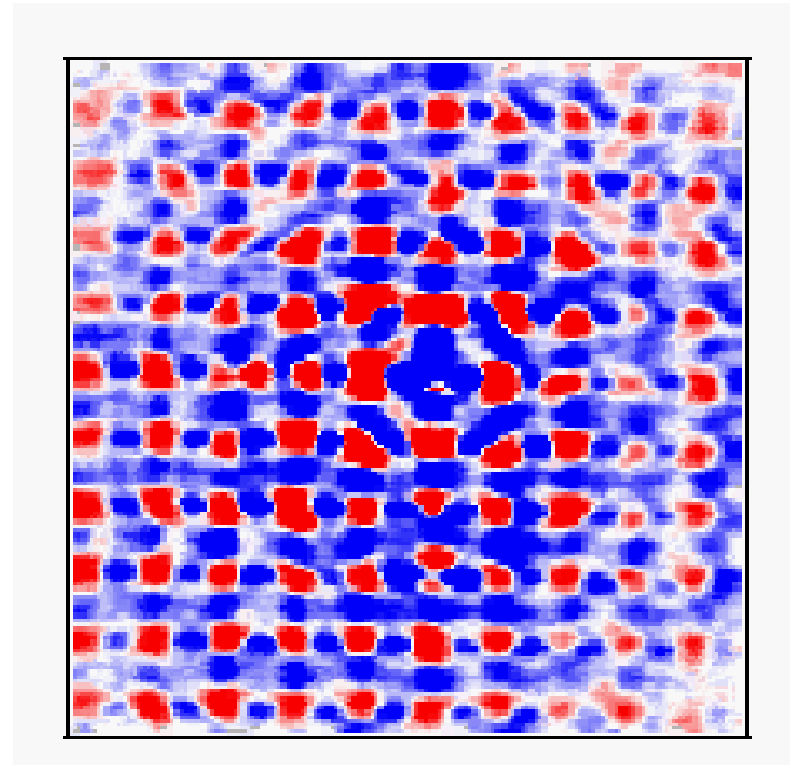
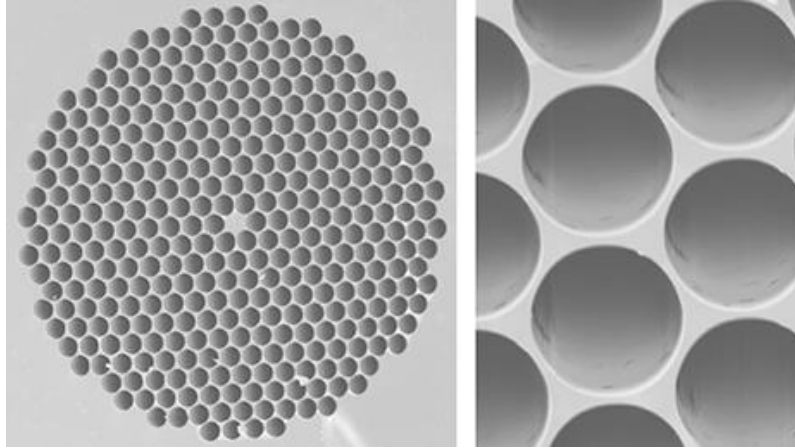
$$\psi(r) = e^{ikr} u(r)$$



The dotted line is the e^{ikr} term (plane wave)

Solid line is the modified wave function from the crystal potential – this is the “Bloch wave”

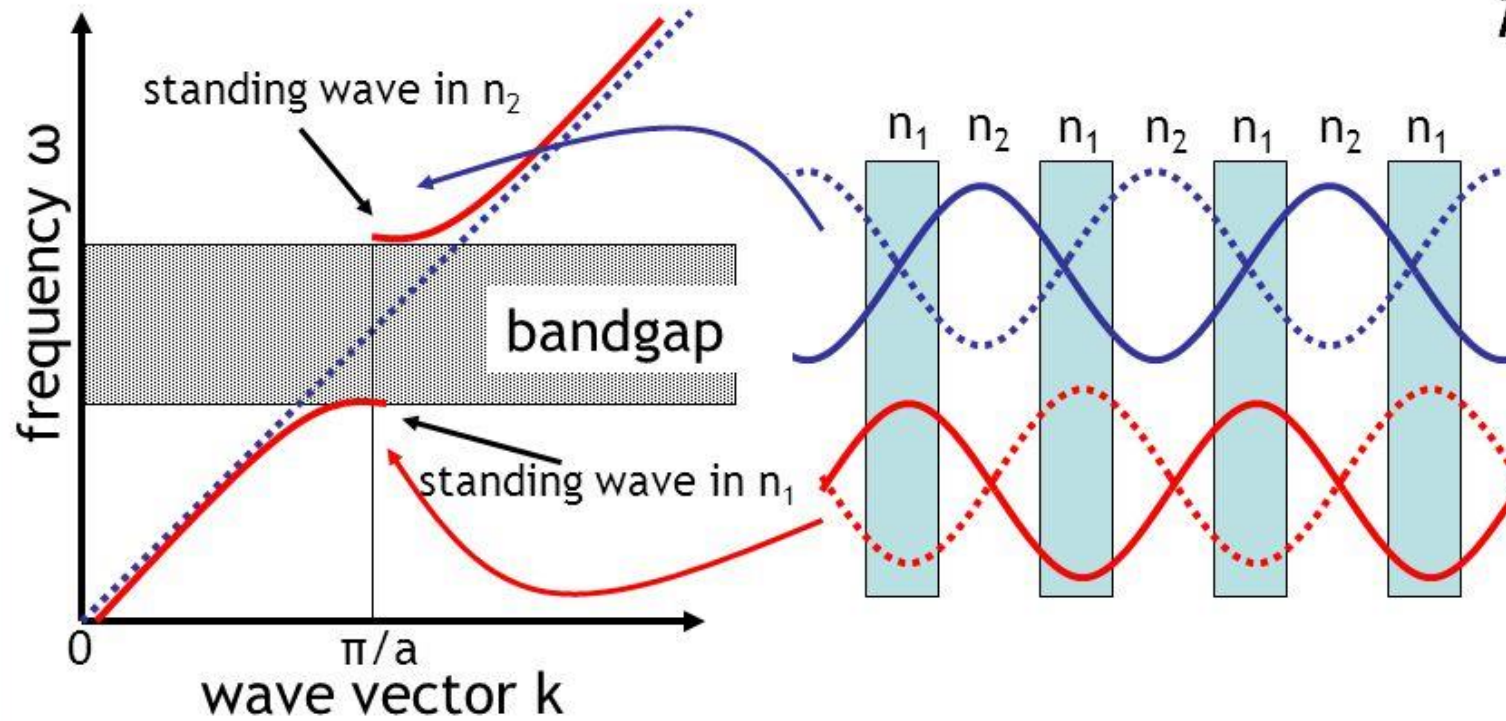
Bloch waves in a photonic crystal

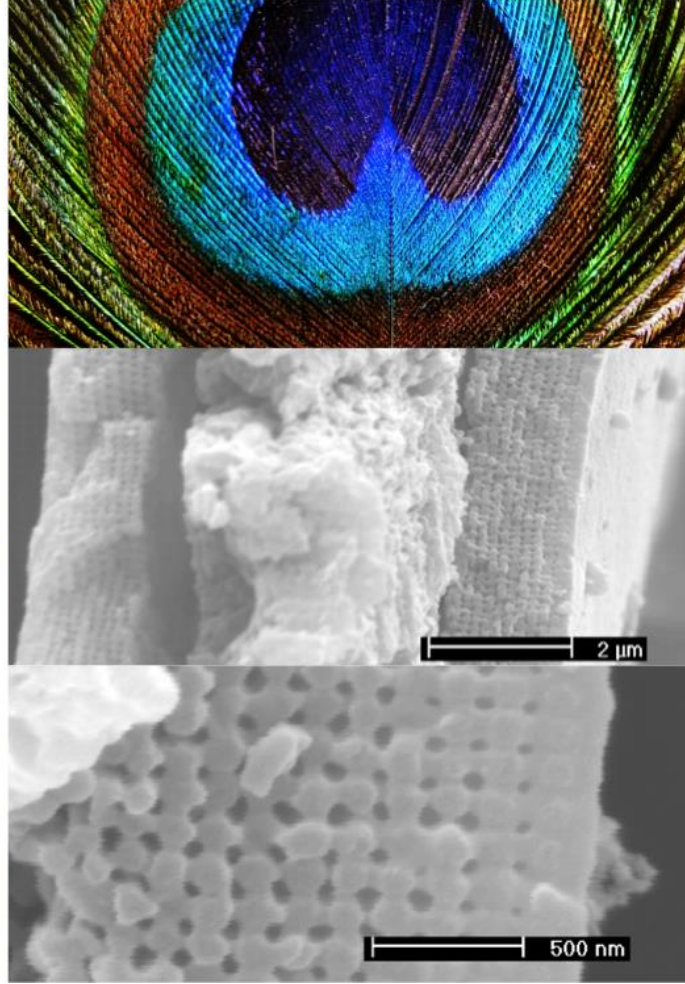


Dispersion relation

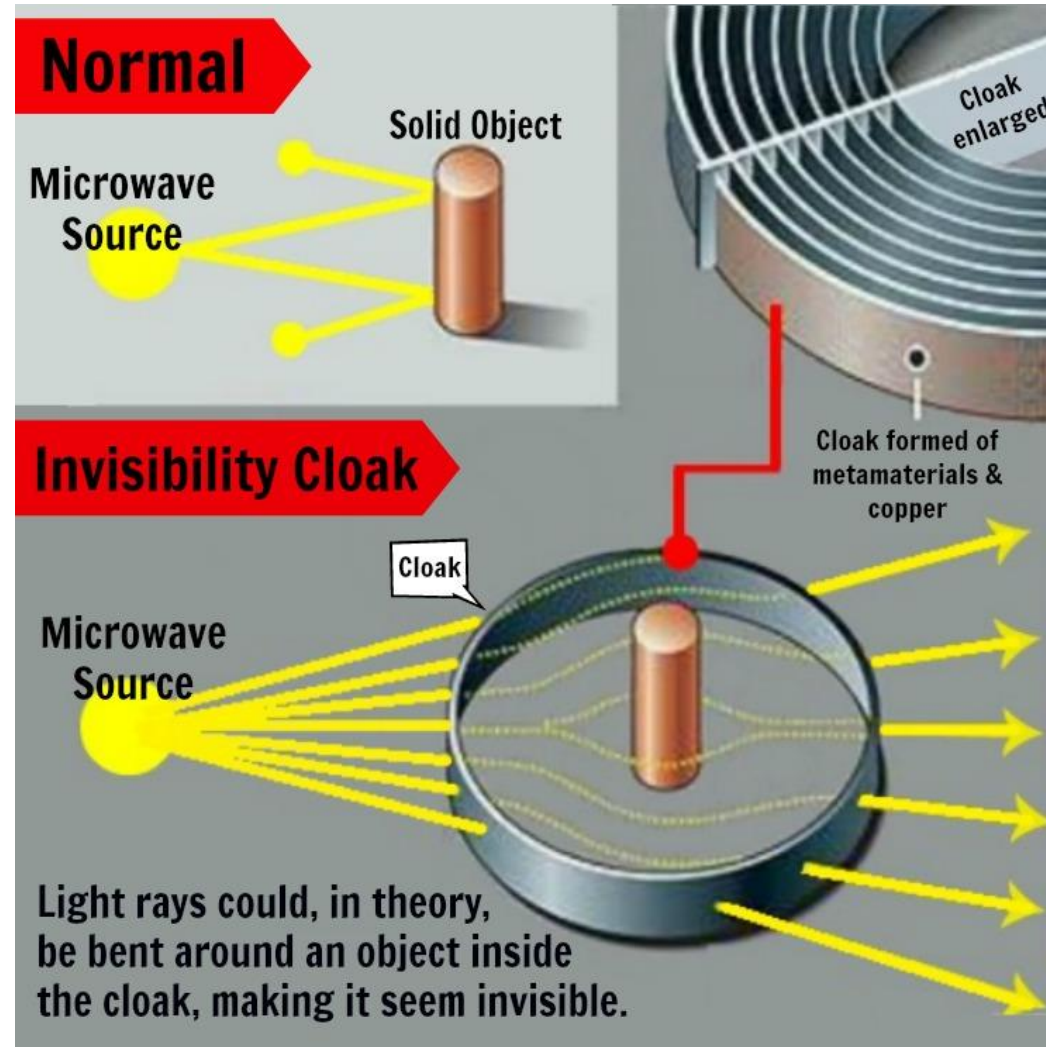
n_1 : high index material
 n_2 : low index material

$$\omega = k \frac{c}{n}$$





Metamaterial cloaking



Metamaterial cloaking

