

Scattering

↳ real space ↔ reciprocal space

↳ lattice vectors
 $\vec{a}, \vec{b}, \vec{c}$

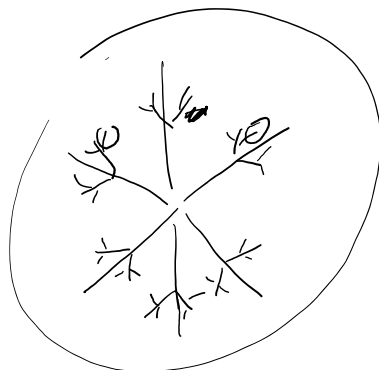
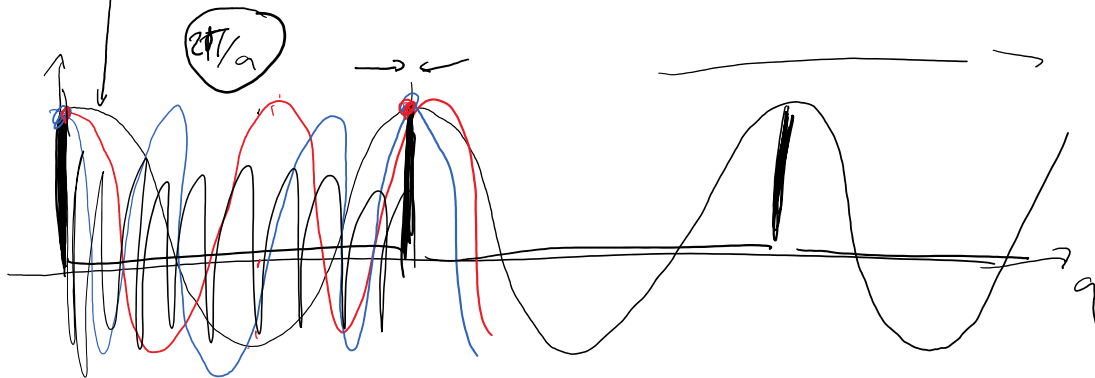
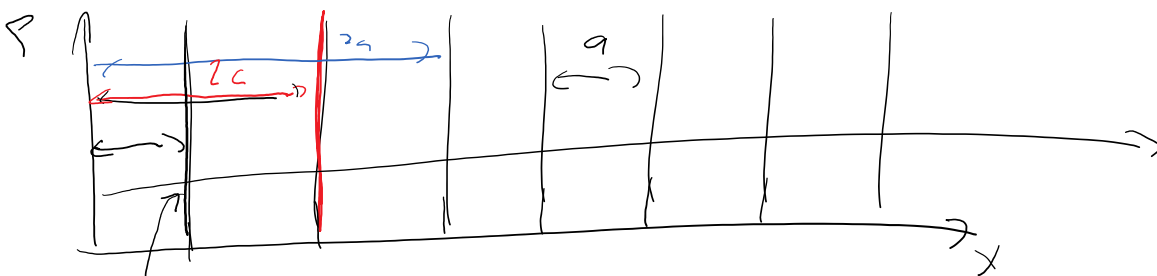
↳ \vec{q} -space

↳ $\vec{q}_a, \vec{q}_b, \vec{q}_c$

Fourier-Transform

$$\vec{q}_a \vec{a} = n\pi$$

↳ phase in Fourier-Transform



SLSLC ...

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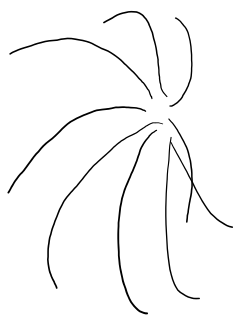
010

→ Fibonacci-word

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1

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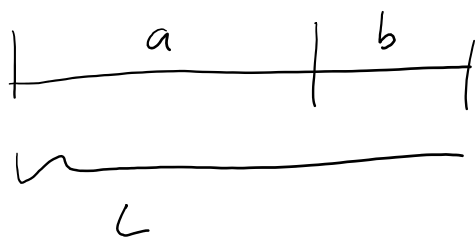
Fibonacci-sequence

$$a_n = a_{n-1} + a_{n-2}$$

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...

$$\lim_{n \rightarrow \infty} \frac{a_n}{a_{n-1}} \rightarrow \left[\phi = \frac{1 + \sqrt{5}}{2} \right] = 1.618...$$

$$\frac{1}{\phi} = \phi - 1$$



$$\frac{a}{b} = \frac{L}{a} \quad \text{golden ratio}$$

