

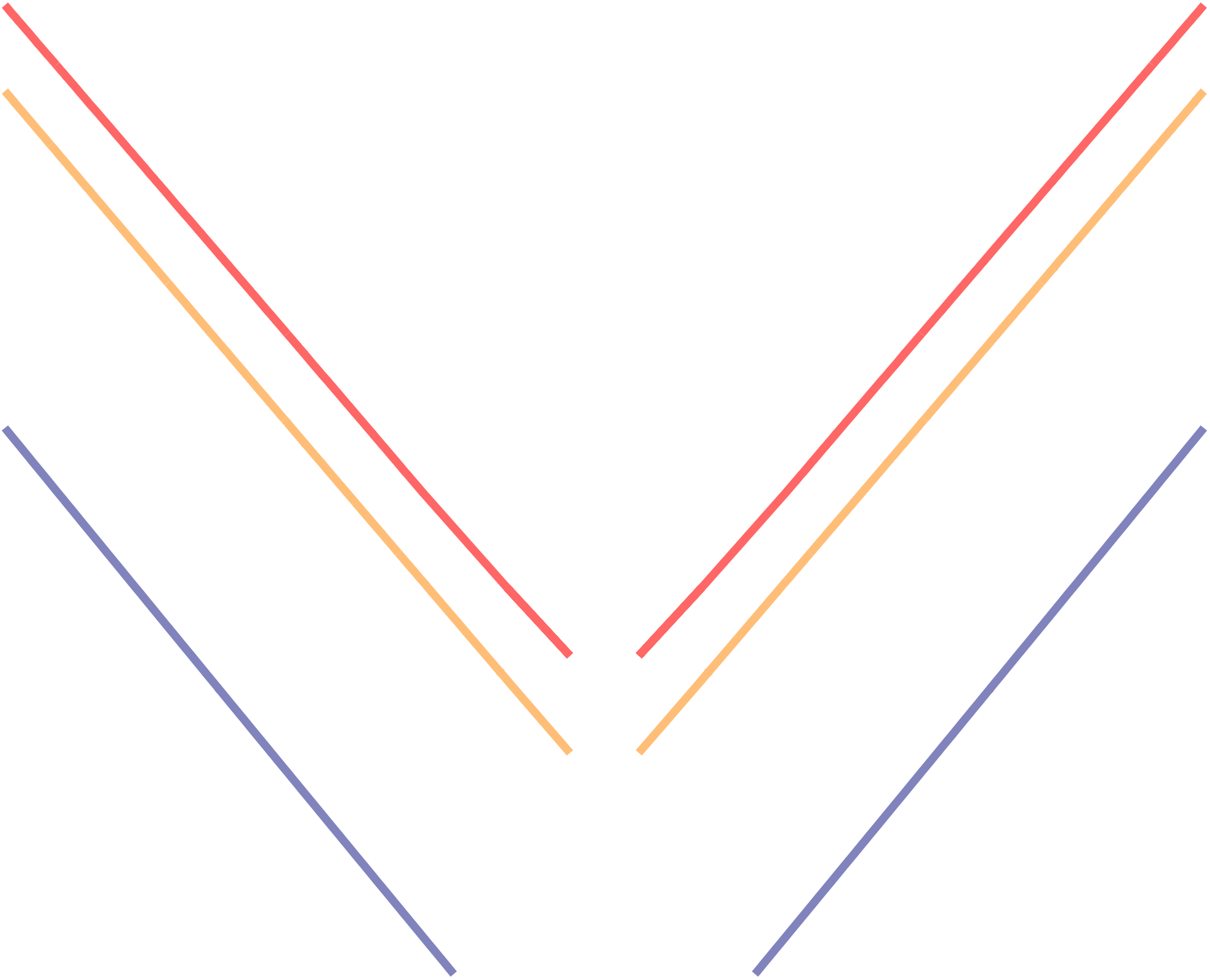
Phrase-matching: intra-modal BV

2

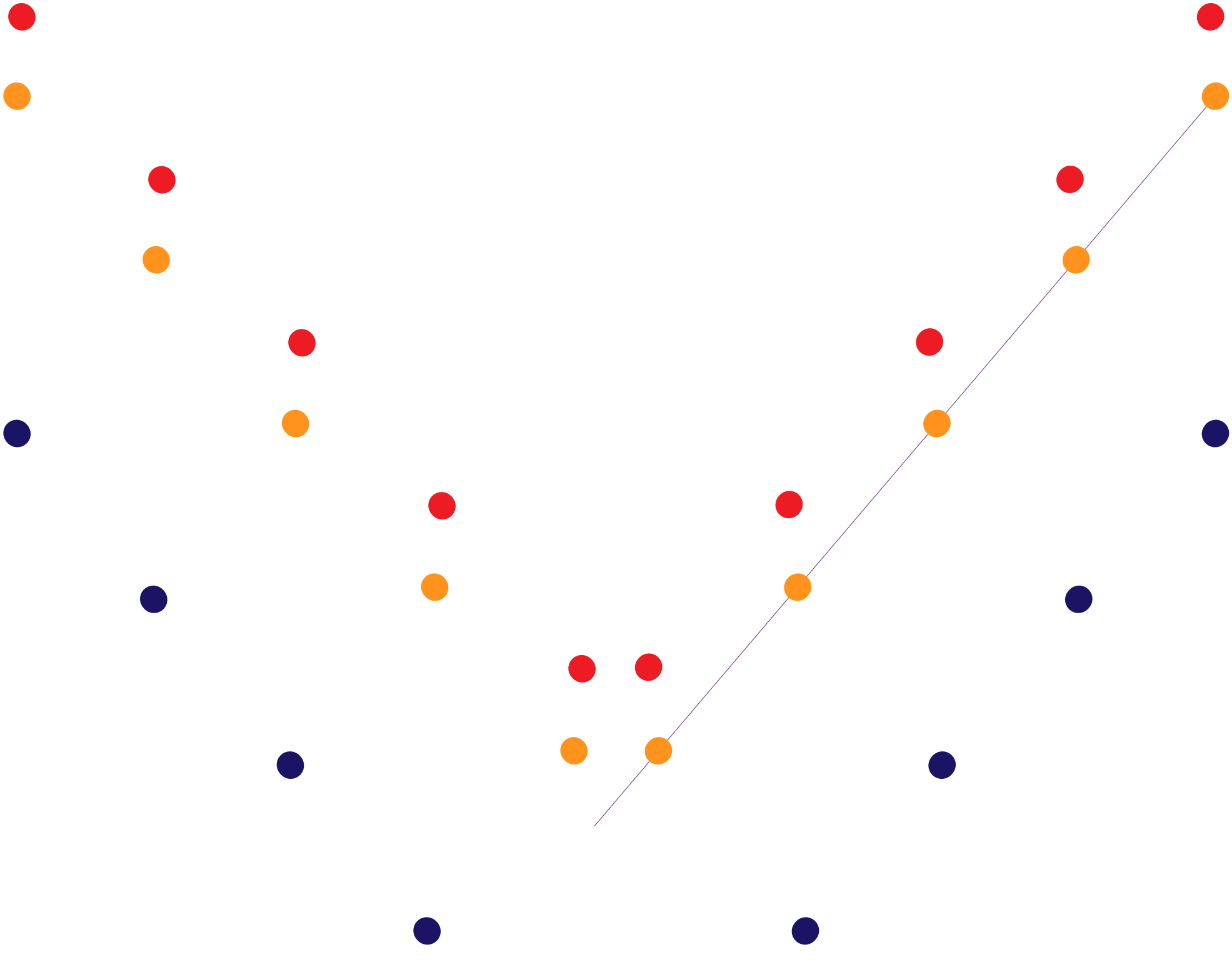
2

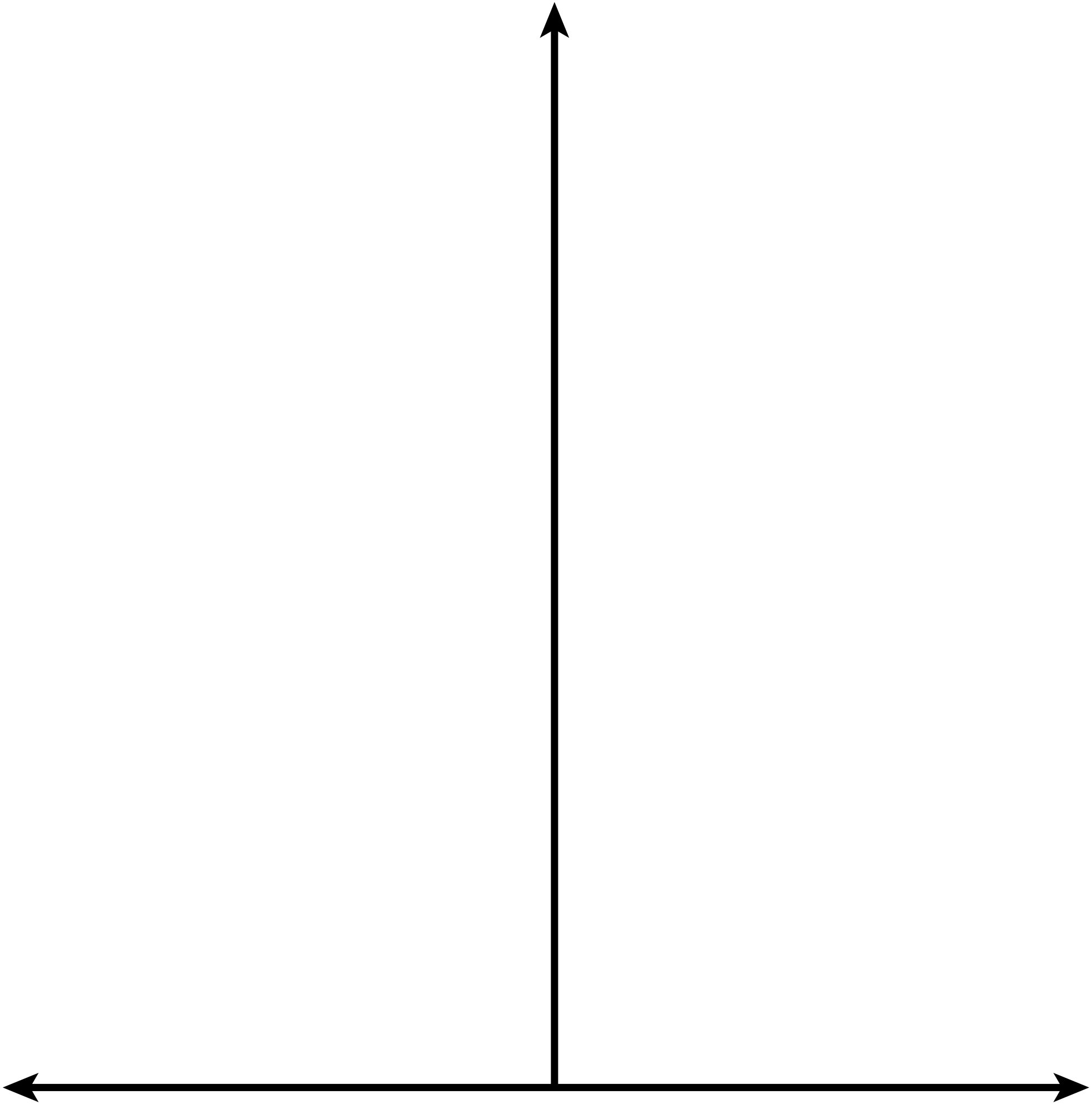
Wombat 2022, Erlangen, June 14th 2022. Gustav Wiederhake.











Optical wavevector,

2

Optical frequency,

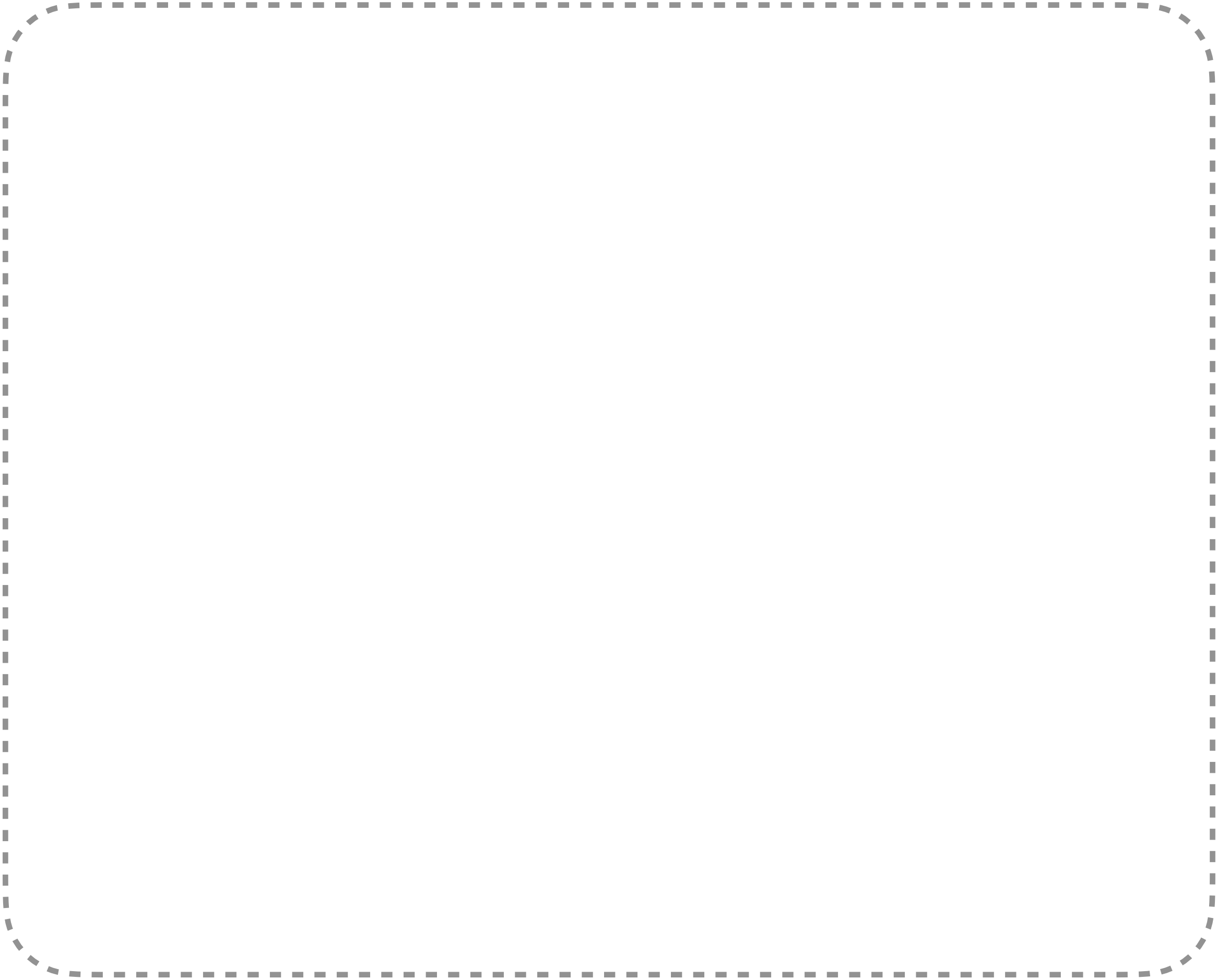
o



$(\alpha_p, \beta_p)$





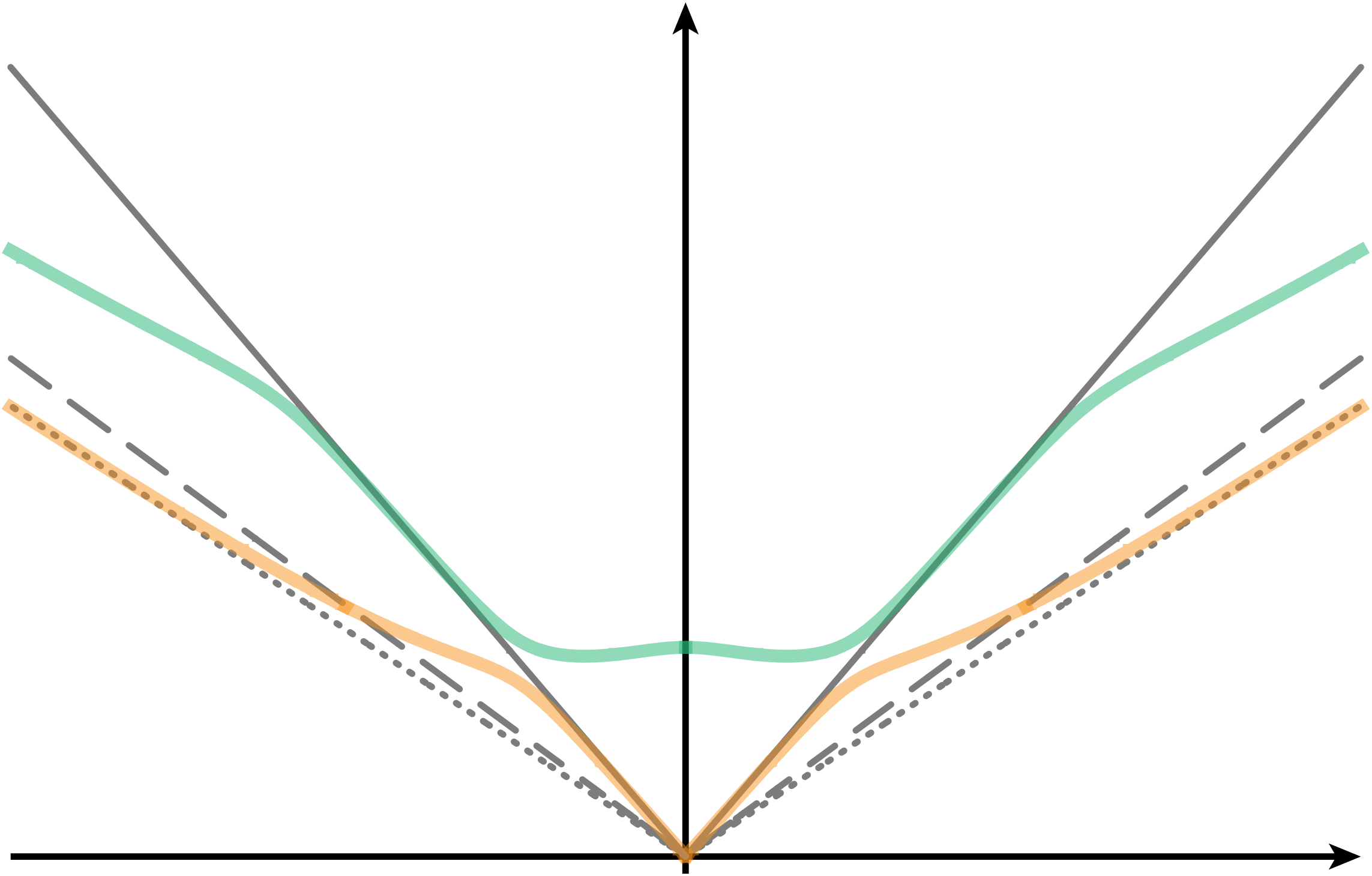


Mechanical wavevector,



Mech. frequency,









as





Ωs





Ωs

$$q_s = + (|k_s| + |k_p|) \approx 2 |k_p|$$



$$q_{as} = -(|\vec{k}_s| + |\vec{k}_p|) \approx -2|\vec{k}_p|$$

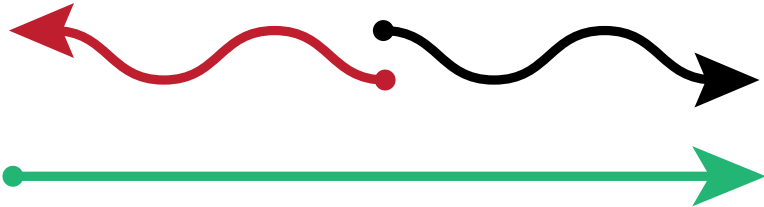


$$q_s(\Omega_s) \approx 2 \frac{\omega_p}{c} n_{eff} \approx \frac{\Omega}{v_{ac}}$$

$$\Omega_s \approx 2 \frac{v_{ac}}{c} \omega_p n_{eff}$$



$(\alpha_s, \beta_s)$



*ras*





$(\alpha_{as}, \beta_{as})$



2

3











$$\Omega_s \approx 2 \frac{v_{ac}}{c} \omega_p n_{eff}$$