$$\omega(q)$$

$$\omega_{\text{max}} = \sqrt{\frac{4C}{M}}$$

$$-\frac{4\pi}{a} - \frac{3\pi}{a} - \frac{2\pi}{a} - \frac{\pi}{a} \quad 0 \quad \frac{\pi}{a} \quad \frac{2\pi}{a} \quad \frac{3\pi}{a} \quad \frac{4\pi}{a}$$