









 $-\pi/a$ 

for half-filled.

0

 $-\pi/2a$ 

Polyacetylene without bond alternation

 $\pi/a$ 

 $k_{\rm F} = \pi/2a$ 













Wave number  $k=2 \pi / \lambda$  is inverse of the wavelength. The number of waves in unit  $\times 2 \pi$  length.





