Source plays frequency f

v

λ'
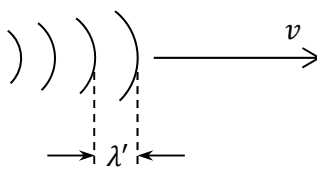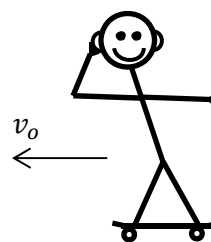
speed of sound: v
speed of source: v_S
speed of observer: v_o

v_S

v_o

Observer hears frequency f'