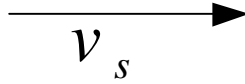


$v = \text{speed of sound}$

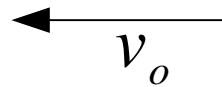
λ, f



$$f' = \left(\frac{1}{1 - \frac{v_s}{v}} \right) f$$



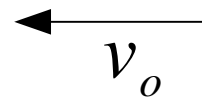
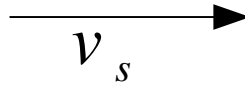
$$f' = \left(\frac{1}{1 + \frac{v_s}{v}} \right) f$$



$$f' = \left(1 + \frac{v_o}{v} \right) f$$



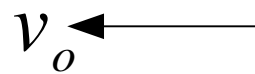
$$f' = \left(1 - \frac{v_o}{v} \right) f$$



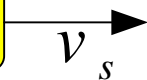
$$f' = \left(\frac{v + v_o}{v - v_s} \right) f$$



$$f' = \left(\frac{v - v_o}{v + v_s} \right) f$$



$$f' = \left(\frac{v + v_o}{v + v_s} \right) f$$



$$f' = \left(\frac{v - v_o}{v - v_s} \right) f$$

Doppler effect cases

Nasser Abbasi
July 10, 2003.
chapter_17_doppler.vsd