

Classroom



In this section of Resonance, we invite readers to pose questions likely to be raised in a classroom situation. We may suggest strategies for dealing with them, or invite responses, or both. "Classroom" is equally a forum for raising broader issues and sharing personal experiences and viewpoints on matters related to teaching and learning science.

? An observer points a torch at a mirror which is moving away at a velocity v . The frequency of the light is ν_0 . The light reflected at normal incidence has a lower frequency ν . A calculation including special relativity, gives the result

$$\nu = \nu_0 \left(\frac{c - v}{c + v} \right)$$

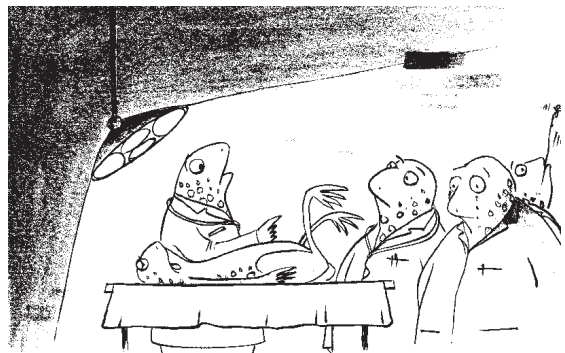
where c is the speed of light. Why is this different from the standard Doppler shift formula for a source moving at a velocity of v ? This reads

$$\nu = \nu_0 \left(\frac{c - v}{c + v} \right)^{1/2}$$

Can one speak of a velocity of the image and if so what is it?



*An unusual case of suicide by drowning,
boys ...*



MOHAN DEVADAS

