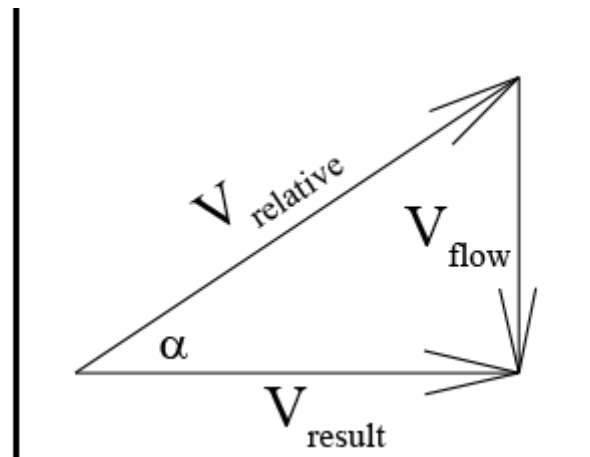


Question #61913, Physics / Mechanics | Relativity

A swimmer wants to reach to a point just opposite on the bank of river. How should he swim and why?

Solution



The swimmer's velocity relative to the water should be directed at the angle α , so that its component along the water flow will be cancelled out by the water flow velocity. The angle can be determined as:

$$\alpha = \arcsin\left(\frac{v_{\text{flow}}}{v_{\text{relative}}}\right)$$