## Alfonso Guillen

Independent scientific researcher

## On the absolute motion in the inertial systems

Authors: Alfonso Leon Guillen Gomez

Mechanics declares character relative of motion. But, vacuum is frame of motion of bodies. Thus, motion is absolute like Newton said, since an observer in rest, inside an inertial system (according Minkowski's metric), does not drag vacuum, and fully insulated from outside, may determine whether his inertial system is in motion and measure its speed, in absolute terms, by generate inside his system, two perpendicular electromagnetic waves (laser rays) for detect Doppler effect. In its absence he proves that the inertial system is in absolute rest. The first longitudinal laser ray has component in the direction of movement, it generates inside his system, for reach a interior point (allocated to observer), with the object of know the detected wavelength with Doppler. The second perpendicular laser ray without the Doppler since it has no component in the direction of movement, with the object of know the emitted wavelength  $\lambda_d$ . In the address and sense of the motion, longitudinal wave will suffer red shifted due to decrease of photons arriving, since observer it moves away of ray laser. Or in the same address and opposite sense, blue shifted due to increase of photons arriving, since observer it approaches to ray laser. The two laser rays are generated in different time with same device, therefore with same wavelength. Absolute speed of inertial system is measured in relation to interior point coordinates at rest of observer. Resulting speed will be:  $(v = c(\lambda_d/\lambda_e - 1) \text{ or } v = c[(\lambda_d/\lambda_e)^2 - 1]/[(\lambda_d/\lambda_e)^2 + 1]$  in relativistic case). In a time is measured  $\lambda_e$  and in other  $\lambda_d$ . The wavelengths  $\lambda_e$ and  $\lambda_d$  are obtained with high accuracy interferometry (detector instead of observer), where the yard-stick, is the wavelength of light itself. Between laser ray and detector will be used a decelerator of photons (closed to stop the photons), according scheme: laser-vacuum-decelerator-vacuum-detector, that allows inertial system can travel with a speed greater than speed of electromagnetic wave. Before that this, in each period, reaches one length of wave, the source radiates one new wave, in a advanced position. On the observer, these waves produce the Doppler.