

CHAPTER II

SPECIAL RELATIVITY

lim anat are missed by the Galilean ption. The first in nature. The naximum speed astence. 1 W esult time and length intervals, ma ence of event horizons. tin etw lo

AT R OTION OF

est celer

of mo heck whether a cise k along words, we use ıght, y ow do y lether a We look across h light. How do we meas high pr precision? ce it was ne Sun that was

ு iight from ca∙

words, light is imp sturbed motion. is the star rnysics would have evolved much more rapidly if, at some carner time, light propagation had been recognized as the ideal example of motion.

But is light really a phenomenon of motion? This was already known in ancient Greece, f bm a simple daily phenomenon, the Shadows prove the light is a moving enty, ema ating ron the light so ree, ar moy' stra he obvious conlusion hat light tales a certain moun of ti from SOI e to the surface ∠av

'Nothir is f s' r the l rume 'r.' The comme sente 's is sin fod ve on o 'irgil's phrase: fama, matum qua non altud velocius utum. 'kumour, tne evil faster than all. r rom tne Aenetd, book IV, verses 173 and 174.

** Note that looking along the plane from all sides is not sufficient for this: a surface that a light beam touches right along its length in all directions does not need to be flat. Can you give an example? One needs other methods to check flatness with light. Can you specify one?

*** Whenever a source produces shadows, the emitted entities are called rays or radiation. Apart from light, other examples of radiation discovered through shadows were infrared rays and ultraviolet rays, which emanate from most light sources together with visible light, and cathode rays, which were found to be to the

motion of a new particle, the electron. Shadows also led to the discovery of X-rays, which again turned out sic of lies, thingh from ere dis d via the hade vitv.n ie! x-rays ielium ick

Page 1154