EXPERIMENT D.F.E.R.N. b

Experiment D.F.E.R.N. b, which will be elaborated here below, is based on the same rationale as experiment D.F.E.R.N.

Only that in experiment D.F.E.R.N. b, the gamma ray detector *D* is placed vertically relative to the linear orbit followed by the fast moving radioactive nuclei exiting accelerator *A*, Fig. 1(b).

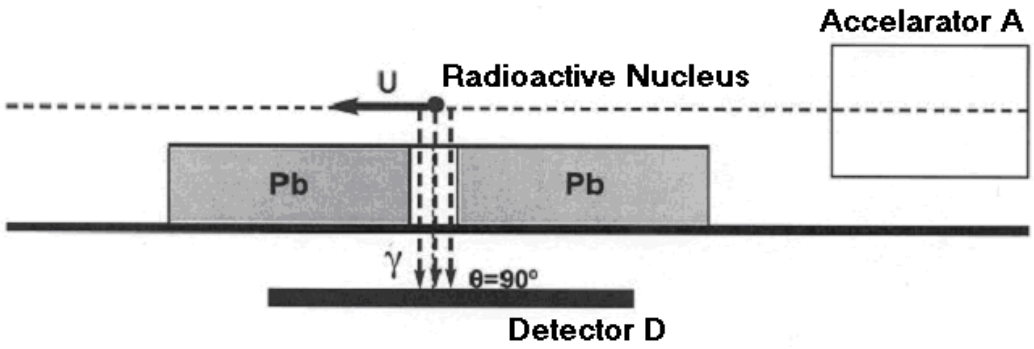

fig. 1(b)

a. Therefore, according to the Theory of Relativity, detector *D* should measure a frequency *v´* of the gamma rays emitted by the radioactive nuclei which will be as follows:

$$v' = v\,(1-\beta^2)^{1/2} / (1-\beta\cos\theta) \qquad (1)$$

and because $\theta = 90^0$, namely, $\cos\theta = 0$, relation (1) yields the following:

$$v' = v\,(1-\beta^2)^{1/2} \qquad (2)$$

b. However, in accordance with Classical Physics and based on the "New Ether Theory", detector *D* should measure a gamma-ray frequency *v´´* which will be as follows:

$$v'' = v \qquad (3)$$

EXAMPLE

Now, if $u/c = 0{,}8$, as was the case in the previous example of experiment D.F.E.R.N., then according to the Theory of Relativity and based on relation (1), detector *D* shall measure the following frequency:

$$v' = 0{,}6v \qquad (4)$$

On the contrary, according to Classical Physics and to the “New Ether Theory” and on the basis of relation (3), detector *D* shall measure the following frequency:

$$v'' = v \qquad (5)$$

where v is the frequency of the gamma rays emitted by the radioactive nuclei when the latter are at rest ($u = 0$).

Therefore, the question being raised as regards experiment D.F.E.R.N. b is the same as the one formulated in the previous experiment D.F.E.R.N., that is:

Which gamma-ray frequency will detector *D* measure in experiment D.F.E.R.N. b, $v' = 0{,}6v$ as the Theory of Relativity maintains or $v'' = v$ as the “New Ether Theory” holds?

Obviously, the answer to this question will be given only if experiment D.F.E.R.N. b, one of great significance to Physics, is carried out.

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