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A New Confirmation of the Presence of Two Errors in Michelson's Analysis of his MMX, on the PCR Academic Website, for Riverboats Contest Times Calculation, and a New Demonstration, Contradicting the Solution in Physics

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Abstract

We elaborated New Interpretation of Michelson's analysis (NI16) of his experiments (MMX), by discovering and correcting the Errors 1, 2 (MER12) in that Analysis (not in experiment), including in its faithful model of two swimmers contest (TSC).

In NI16 was presented previous Demonstrations 1, 2, and 3, which all proved total times equality $t_1=t_2$ (no winner) in Water frame (WF). But this result contradicts current Physics textbooks (PTB) which states the inequality of times $t_2<t_1$, and transversal SW2 wining the contest. This result is also valid for MMX.

Recently, we discovered that a numerical calculation, similar to our NI16, appears on the website Physics Classroom (PCR), by a numerical calculus for Example 1 (EX1) of the first crossing of a river 80 m wide, with speed of 3m/s, by a motorboat (BO2) with speed of 4m/s. This numerical calculation in PCR, faithfully follows the rules of plane vector calculus and reaches the result of the first crossing time of $t_{2a}=20,0s$.

This result in PCR completely corresponds to procedures and times from NI16 in WF.

But corresponding time from PTB is $t_{2a}=30.20s$, the total is double $t_2=60.4s$ and for BO1 results $t_2=60,4s<91.4s=t_1$ and SW2 wins TSC, and PTB must be corrected.

Therefore, the credible PCR website, represents a Confirmation 4 for the correctness of our NI16.

And based on a new geometric route of BO2 in BF frame, from trigonometric calculation, results $t_2=t_1$, as in NI16. So this calculus represents the very Demonstration 5, of NI16 correctness, allowing the reintroduction of the ether into Physics, with numerous consequences.