Potier was wrong.

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This article explains how time dilation has been used to cover up for a mistake, that was introduced by Potier, when Einstein was a child. Potier did not observe that mirrors are transparent to the ether wind, and therefore the mirrors are controlling **c** only – and not **c**+**v**.

Potier's mistake

Potier reduced Michelson's prediction for MMX (his tests together with Morley) by half. He did that by introducing an effect of the ether wind also in the transverse arm of the equipment. Potier said that transverse ether wind forced light to take a triangular (and longer) way in the frame of the ether. This effect increased propagation time by half the effect in the longitudinal arm. However, according to the wave model, light moves with constant speed in relation to the *ether*, and independent of the source motion. So, the distant mirror defines wave fronts to be parallel to the mirror, and therefore, light motion is perpendicular to mirrors in the frame of the *ether*. In error Potier assumed motion to be perpendicular to the mirror in the frame of the *equipment*. There is no reason for light to follow the equipment in the transverse arm as Potier assumed (in one arm only).

To understand the mistake, we have to regard the important difference between ether wind and wave motion. The ether wind is a static property of the ether, and the wave motion is a dynamic and moving process. The distant mirror implies boundary conditions that are respected by light, but *not* by the ether wind. This means that light moves with wave fronts parallel to the 2 distant mirrors in the 2 arms of MMX. Therefore, orthogonality exists in the frame of the ether – and not in the frame of the equipment. So, light always moves with the speed c perpendicular to the distant mirror in the transverse arm, in the frame of the *ether*. This means that the speed in the equipment's frame is $(c^2+v^2)^{1/2}$. There is no effect of the ether wind in the transverse arm of MMX. v/c is about 10^{-6} due to planetary *rotation*.

Potier's mistake was to assume light to depend on the motion of the source in the transverse arm only. This indicates a thinking in terms of particles, and not in agreement to the wave model, that was assumed in the longitudinal arm. So, ether wind inside the wave front cannot bend the wave front. Therefore, wave front bending cannot explain stellar and pulsar aberrations either. Instead, transverse speed of the observer, u, produces the illusion of bending due to needed coordinate transformations. This mechanism, for a moving wave front, is the same as the mechanism for a moving particle. u/c is about 10^{-4} due to planetary *translation*.

Since atoms in a crystal are controlling their separations by means of effects that they produce on the ether, and that these effects can be assumed to propagate with the same speed as light, it is reasonable to assume atomic separations to be reduced to the same amount as the 2-way speed of light. Therefore, we get a compensated effect in the longitudinal arm of MMX. One compensated effect and one not existent effect means that MMX cannot detect an ether wind. Since this contraction is 2 times the FitzGerald contraction we no longer need the dilation of time. We can use the Galilean transform, since the small contraction (10^{-12}) is hidden by the definition of the unit of length.

Since bound electrons move forth and back, in relation to the ether wind, they are accelerated and decelerated during each orbiting period. This can explain a frequency change in atomic clocks, of the same type as the reduction of 2-way light speed, by the ether wind.

Conclusions

- The ether wind due to planetary rotation (about 10^{-6} times *c*) produces no effect in the transverse arm of MMX, and a compensated effect in the longitudinal arm. and MMX is explained to be useless without the need for invoking dilation of time.
- The stellar and pulsar aberrations (about 10^{-4}) are caused by observer motion, and are independent of the ether wind, since a wave front reacts to the rain drop effect just in the same way as a particle.
- In coherent systems (telescopes, interferometers and cavities) that are using reflecting, or refracting, surfaces to control wave fronts (and not the total motion of light) we must use a light model that is including *only the longitudinal* component of the ether wind, when we are dealing with coherent systems.
- Michelson was right in his first prediction for MMX, and Potier was wrong, when he assumed mirrors to control **c**+**v** (instead of **c** only). **c**+**v** can only be observed in focused light.
- Time dilation was invented to hide a mistake. This confusion is quite understandable, since *v/c* is only 10^{-6}.

Reference

More details (and explaining diagrams) are available in *Einstein was wrong – who was right?*