Special Relativity Theory Aberrated: Response to Cynthia Whitney

J. G. Fox, Carnegie Institute of Technology, has published at length papers [1], [2] (for example) which demonstrate why the velocity of the star need not be taken into account when considering stellar aberration. The extinction theorem ensures that any light reaching the earth has been generated within approximately two light years. In other words, the light from any distant star has been absorbed and forward scattered so many times upon reaching us that we are no longer concerned with the original transverse velocity of the star itself (though radial velocity and space expansion still account for the usual Doppler shifts). It is safe to assume that almost 100% of the light we ultimately detect has been generated locally within the extinction distance of about two light years. Thus, when considering stellar aberration, we are concerned, not with the velocity of the Earth with respect to the star, but of the velocity of the Earth with respect to the general particle distribution in space in a volume of approximate two light years radius of the sun. We might consider the sun to be roughly stationary in this volume. If such is the case, then we would see aberration attributable to the Earth's changing velocity with respect to the sun over a period of six months. Even if we assume the sun to be drifting with respect to this local background, we would still get the aberration effect detected over six months, as the motion of the sun would appear the same each time, and its effect would be to produce a general and consistent displacement in the apparent position of the distant star. This effect would be independent of the observed change in aberration angle due to the earth's motion about the sun.

Ms. Whitney concludes that a third reference frame which "reeks suspiciously of absolute space" cannot be avoided. In fact, this third reference frame is simply the background of local space within a small radius of about two light years of our solar system. While we are forced to treat this background as stationary, it has nothing to due with absolute space. We are dealing simply with our velocity through the average distribution of particles within this volume. However, and for a variety of reasons, I agree with Ms. Whitney that a radical departure from SRT is indeed necessary.


Curt Renshaw
President, Tele-Consultants, Inc.
680 America's Cup Cove
Alpharetta, GA 30202