THE RELATIVE SPEED OF LIGHT, c + v, and c – v

Dr. Einstein's fundamental career error in physics was incorrectly using the correct idea that the speed of light in his Special Theory of Relativity is constant and extending that to the faulty idea that the speed of light can also be equated to the relative speed of light.

Consider points A, B, and C below:

0 (point A) 0 (point B) 0 (point C)

First consider A and B to be "fixed," with a light source at A and the light destination at B. The light arrives at B at time t. The speed of light between A and B is c, so the distance travelled is ct.

CASE I

Now consider A to be moving toward B with constant velocity v. Dr. Einstein was correct that the speed of the light pulse is still c, it still arrives at time t, and the distance travelled is still ct. This light pulse, however, will be Doppler wavelength blue shifted. The constant velocity v of A has no other effect on the light where both c and frequency stay the same. The RELATIVE speed of light between A and B is c + v, where c + v has no physical meaning beyond the above referenced Doppler shifting.

CASE II

Case II is equivalent to Case I. Consider A fixed and C moving toward A with constant velocity v, where C which becomes coincident with point B at time t after moving distance vt. The relative velocity between C and A is c+ v. The light pulse is moving at velocity c, and C is meeting the pulse "part way," at point B, after time t, when C and B become coincident. The light at destination B is Doppler blue shifted. Again, c + v has no physical meaning beyond the referenced Doppler shifting.

DR. EINSTEIN'S TRAIN AND PLATFORM

Consider Dr. Einstein's train moving from left to right at velocity v. A pulse of light is sent across the train from the far side to the near side at 90 degrees to the train motion. For you, on the train, the light pulse travels distance AB as shown on the right triangle below:

A

ct ct'

B vt' C

For me, on the train platform, the train travels distance BC, and the light travels distance AC. The same light pulse appears to travel two different distances, namely AB and AC. Dr. Einstein's critical career error was considering the speed of light between A and B for you on the train to be the same as, for me, the relative speed of light between A and C. As shown in Case I and Case II above, the speed of light is constant, but it is not equal to the relative speed of light.

Dr. Einstein assumed that the speed of light between A and B in the triangle above is the same as the relative speed of light between A and C above such that ct is the distance between A and B and ct' is the distance between A and C in the triangle above. Using the Pythagorean theorem, then, he said that (ct)^2 +(vt')^2 = (ct')2, and solving for t he got his time dilation equation of t = t'{square root of (1 – v^2/c^2)} and all the rest of his incorrect Special Relativity formulas. See www.k1man.com/c1.pdf and www.k1man.com/c29.pdf where the writer shows that the above Dr. Einstein analysis leads directly to the contradiction of the same clock simultaneously speeding up and slowing down on the same moving train.