



The source is put near the slit A so as the light rays seen by a ground observer reaching both slits simultaneously.

For the interference pattern to form, the rays must also reach in phase.

However, this condition is not necessarily met for the train observer as long as the location of the source relative to the 2 slits does not always keep the ratio between the distance from the source to both slits and the wave-length of the light is the same!

So, how can the phase become an invariant physical quantity?