

### Aberration and *Michelson* Experiment.

In No. 5203 was published an article by *K. Vogtherr*, master of aberration and Michelson experiment in which the contradiction that should exist between aberration and *Michelson* experiment, plays an essential role. Two years ago, I have in Vol. 212 p. 81 of this journal pointed out that the aforementioned statement is found in almost all textbooks of physics known to me, even though it totally contradicts the facts. Since then, I have often had the occasion to meet up again with that statement. At the close relationship of astronomy and physics, which in many things at hand: must work, it is imperative that it is present on both sides completely clear what the observations teach us.

When I was in this matter once again taking the floor, so that leads me to think that the above statement is not in an astronomical journal may be accepted without opposition. I hear the closer colleagues once known must be present, may be excused so that the optical processes both for astronomy and for physics are of the utmost importance.

The astronomical observations have revealed the following facts:

All the phenomena of aberration can be represented completely by a constant speed of light and the relative motion of the observer from the light emitting body. All the stars show the appearance of the daily aberration. The moon also shows only an aberration, resulting from the relative motion of the Earth to the Moon. The same is true of the other members of the solar system, so is the aberration of the sun depends only on the orbital motion of the earth. The aberration of the fixed stars is certainly not inconsistent herewith. The relative motion of the earth against the individual stars may be an entirely different, but the aberration of the single star is composed of a part, of the

relative motion of the sun against the star, and another, by the movement of the earth against the sun arises. The first part is constant for each star, and therefore cannot be determined, the second part is the so-called stellar aberration, which shows how we watched, of course, just as the sun.

The fixed stars take an exceptional position in so far as to the relative motion of the sun against the individual stars as well may set the resting against the imaginary ether. The first part is also constant and remains unknown to us. In other words, the stellar aberration is represented by two assumptions.

The aberration disappears when the relative motion is zero. The directions for earthly objects reveal no measurable aberration, because the relative movement between the light source and the observer is negligible. The aberration can therefore recognize no difference between cosmic and earthly light. We can say:

From the phenomena of aberration would be able to establish only the relative motion of the observer from the light emitting body. Exactly the same result, but had the *Michelson* experiment. Yes, if we had drawn from the phenomena of the aberration of the right conclusions, the result of the *Michelson* experiment would not have surprised you'd even have to expect it.

The fact is certain: Both the aberration, as the *Michelson* experiment, as the Doppler effect are within the observational accuracy completely represented by the assumption that the light activities, whether they run in space or on Earth, only the relative motion of the observer against the light transmitting body comes into question.

The above experimental facts must not be ignored in studies on the process of light between two points.