

## About the distances of cosmic objects

With the aim of expanding my knowledge about the structure of cosmic matter, I have specifically dealt with distance measurements in the universe. In doing so, I came across a number of publications dedicated to this topic (sources at the end). All contributions have brought me a not inconsiderable increase in knowledge.

However, one circumstance is not mentioned in any of the articles: All measurements do not apply to the present. The measured respectively determined or calculated distances apply to the objects for the time as many years ago as their distances are in light years. The current position of the objects remains unknown. For example, the Andromeda galaxy was 2½ million light-years away 2½ million years ago. Where Andromeda is present we cannot know.

To find out, two measurements must be carried out at a defined time interval and the positions of the objects must be determined with both. This is how we get their velocity vector (magnitude and direction). The velocity vector now allows the position to be extrapolated to the present time. However, the result is limited. It is tied to the condition that the velocity vector is constant. However, due to the general rotation of objects in the universe, this is only given within narrow limits. This shortcoming can be overcome by taking several measurements and in this way finding a path speed containing the change in direction of the velocity vector. This allows more accurate conclusions to be drawn about the present values.

Another method of finding out the current position of an object would be found in the further development of gravitational measurement. This development is currently being operated only to a limited extent. A first approach are the LIGO detectors (**L**aser **I**nterferometer **G**ravitational-Wave **O**bservatory), but whose measurements in the present time are not interpreted correctly. Gravity between cosmic objects acts instantaneously and therefore allows obtaining present values of events at large distances. In order to make this possible in principle, however, the crisis in theoretical physics must first be overcome. The instantaneous effect of a force is still contradicted at the moment. In current physics, a movement is assumed for the force and it is postulated a spread at the speed of light. However, the concept of motion is not applicable to a force because it is not a material object but an immediate effect between material objects. However, this knowledge is currently not available because physics denies the dialectic-materialistic concept of matter in the present time. More about this in

<http://hauptplatz.unipohl.de/Wissenschaft/EssenceMatter.pdf>

Sources (in German language):

<https://www.spektrum.de/frage/entfernungen-im-weltall/1676214>

<https://www.weltderphysik.de/gebiet/universum/astronomische-massstaebe/entfernungen-teil1/>

<https://www.raumfahrer.net/entfernungs-messungen-im-all/>

<https://www.astronews.com/frag/antworten/3/frage3346.html>