

Chairman: H. Kahmen

H. Kahmen: (introduction)

When we are measuring distances with electronic equipments, the recordings must be corrected by velocity and also the curvatory corrections must be used. During the symposium of Wageningen, Mr Hugget presented his first results of his three-colour instrument, and these results showed us that these instruments can achieve a short periodic accuracy of about 0.1 ppm. But when we consider the long periodic accuracy we see that also these instruments only achieve an accuracy of 1 ppm. So there is no fundamental correction for the velocity til now, which gives us better results than 1 ppm. Yesterday we saw that the curvatures of the electromagnetic waves follow quite different ways. When we are correcting in geodesy the results of electronic distance measurements, the corrections are based on the assumptions that the curvature is constant. For longer distances the uncertainty of these corrections will still more limit the accuracy. During the large workshop in Wageningen 1977, professor Tengström started new activities for finding better corrections of angles and for electromagnetic measured distances. He made two proposals. At first, he wished that the turbulence tapes of the atmosphere should be taken into account, and on the second hand, the problems of the fore-runners should be studied. Professor Angus-Leppan has been so kind to give us here a short report about Brunner's studies into the special problem of the fore-runners.