

DISCUSSION: SESSION I

W. Gliese: (Answer to question by A. A. Mikhailov) If you need only proper motion in the system of the new precessional constant, the addition of the precessional correction will be sufficient. But when the Rechen-Institut uses old observational catalogues we have to be careful: many catalogues are given not for the epoch and equinox of observations, but for a normal epoch and equinox. We have to see which precessional constants were used by the compilers of the catalogues.

R.O. Vicente: I agree with the proposal made by Prof. Melchior concerning the terminology to be used in polar motion problems.

J.D. Mulholland: This symposium has two different aspects: the search for a perfect geophysical model, and the need for a better mathematical description for use in astronomy. It was the latter question that was discussed in IAU 1976 at Grenoble and deferred to this symposium for a decision. This is a question of model utility, so it must be asked how much difference will be brought to the mathematical series by the different possible physical models of the Earth. If the differences are observationally negligible, then the geophysical purity is of no interest within the framework of the IAU System of Astronomical Constants.

P. Melchior: All permissible models result in practically the same mathematical description of nutation for use in astronomy.

P.L. Bender: There are differences of opinion on whether it is desirable to adopt a standard model for the Earth. Whatever is done, some danger exists that the adopted model will be used in cases where it is inadequate. As an example, recent geophysical results indicate that the effects of dissipation may have to be included in order to obtain agreement between the seismic wave travel times and the normal mode frequencies, and that the Love numbers may be significantly frequency dependent. Any standard model not including attenuation thus would be misleading in the future for seismological calculations. Such models also might not be adequate for some astronomical calculations.

P. Melchior: Numerical results obtained by H. Jeffreys and R. O. Vicente do not fit those derived from tidal observations. On the contrary, these observations proved to be in very good agreement with Molodensky's model.