

Requirements of a User on the IERS Conventions Models

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Abstract

Since the IERS Conventions are contributed from different persons, they will naturally not be homogeneous. First steps towards a standardization have already been taken.

If a user is obliged to implement many conventional models into a single program, he may demand a unified notation and the use of the same shared sub-models. For example, the astronomical arguments differ from one given subroutine to another, and the use of the timescale is still contradictory. There are even differences in the tacitly assumed mathematical notation which have an impact on signs in formulas.

On the other hand, the application of the models in differential or integral equations requires extensions of the formula apparatus. For it, numerical figures should be replaced by their theoretical parameters, higher derivatives be given, and conversions of formulas into other coordinates appended. For that task a forum on the conventions website is suggested.