VALIDATION OF MODEL FORECASTS OF THE AMBIENT SOLAR WIND

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Independent and automated validation is a vital step in the progression of models from the research community into operational forecasting use.
In this paper we describe a program in development at the CCMC to provide just such a comprehensive validation for models of the ambient solar wind in the inner heliosphere. We have built upon previous efforts published in the community, sharpened their definitions, and completed a baseline study.
We also provide first results from this program of the comparative performance of the MHD models available at the CCMC against that of the Wang-Sheeley-Arge (WSA) model.

An important goal of this effort is to provide a consistent validation to all available models.
Clearly exposing the relative strengths and weaknesses of the different models will enable forecasters to craft more reliable ensemble forecasting strategies.

Models of the ambient solar wind are developing rapidly as a result of improvements in data supply, numerical techniques, and computing resources. It is anticipated that in the next five to ten years, the MHD based models will supplant semi-empirical potential based models such as the WSA model, as the best available forecast models. We anticipate that this validation effort will track this evolution and so assist policy makers in gauging the value of past and future investment in modeling support.