

European ionospheric monitoring and modelling activity in MIERS

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MIERS COST 296 Action is devoted to the mitigation of ionospheric effects on radio systems. It creates a platform for sharing tools as algorithms or models and jointly developed advanced technologies; the processing chain from measurements through algorithms to operational knowledge. Such initiative creates a unique possibility for national groups to consolidated design of a product required for their own activity and for European assessments in an ionosphere and telecommunication area. The important part of the Action is stimulation and integration of many national and international activities which provide instruments and tools for global as well as regional ionospheric monitoring and modeling. Detailed description of the work includes near Earth space plasma monitoring, modeling and forecasting, climate of the upper atmosphere. Well defined terms of reference include developing ground-based and space based monitoring techniques and parameters describing the state of the ionospheric plasma, maintaining and extending the flow of real-time and retrospective ionospheric monitoring data to databases. To obtain the high quality information for these purposes special attention is put to the data ingestion and assimilation in constructing ionospheric models of different spatial and time scale perturbations; storms, small variations and irregularities, as well. Physical origin of atmospheric/ionospheric effects, their signatures and parameters is investigated. Identifying criteria are studied and formulated.