

Space Climatology and Weather (RP 4.2.22)

Introduction – Definition of Space Weather, a historical perspective, advent of Space Weather programs (2)

Ionosphere – Description of the ionospheric layers, anomalous features of the F-region, ionospheric irregularities, short-term and long-term behaviour of the ionospheric layers, sporadic-E, ionospheric models (7)

Geomagnetic Storms– Geomagnetic Variations, Geomagnetic Activity Indices, Geomagnetic Storms and the Ionosphere (2)

Space Weather Measurement Systems– Ionospheric Sounding Systems, Radar, Transionospheric Propagation Systems, GPS (7)

Space Weather Effects on Telecommunication Systems – outline of ionospheric effects, integrated propagation effects – refraction, phase and group path variation, Doppler shift, Faraday rotation, absorption, differential effects – scintillations, mitigation schemes (6)

Prediction Services and Systems – elements of the prediction process, forecasting services – organizational approaches and commercial forecasting, systems for forecasting – OPSEND, SCINDA (6)