

Book outline: The Scientific Foundations of Space Weather

D. Baker, A. Balogh, T. Gombosi, H. Koskinen, A. Veronig, R. von Steiger (Eds.)

Hannu Koskinen, Editors	Challenges and achievements of the science of space weather
Lou Lanzerotti	Past, present and future of space weather research
Jussi Luntama, Howard Singer, Joe Fennell, et al.	Space weather forecasting: connections between science and users
Lucie Green, Bojan Vrsnak, Tibor Török, Säm Krucker, Chip Manchester, Astrid Veronig	The origin and predictability of solar eruptions
Sarah Gibson, Steve Cranmer, Pete Riley	Origins of the ambient solar wind: implications for space weather
Chip Manchester, Ying Liu, Pete Riley, Emilia Kilpua, Tibor Török, Noe Lugaz, Bojan Vrsnak	Physical processes of CME propagation
Silvia Dalla, Ludwig Klein	Acceleration and propagation of solar energetic particles
Emilia Kilpua, Ruedi von Steiger, André Balogh	Solar wind dynamics, interplanetary magnetic fields and interplanetary shocks
Jonathan Eastwood, Rumi Nakamura, Michael Hesse	Space weather driven dynamics of the magnetosphere
Bob McPherron, Brian Anderson, Ari Vijanen	Dynamic magnetospheric forcing, Ionospheric current systems
Natalia Ganushkina, Allyson Jaynes	Space weather effects produced by Ring current particles
Allyson Jaynes, Daniel Baker, John Foster, Philip Erickson, Joe Fennell, Pekka Verronen	Space weather effects in the radiation belts
Mark Lester, Joseph Huba, John Foster	Space weather effects - ionosphere (TBD)
Jan Sojka, et al.	Space weather effects in the atmosphere
Tamás Gombosi, Philip Erickson, Dan Baker, Joseph Huba, Lou Lanzerotti	Anthropogenic space weather effects - past and present
Pete Riley, Dan Baker, Pekka Verronen, Ying Liu, Howard Singer, Manuel Güdel	Scenarios and statistics of extreme space weather events
Mioara Mandea	The changing geomagnetic field
Ed Cliver, et al.	Long term evolution of the Sun
Nathan Schwadron et al.	Particle radiation interactions in deep space, at Earth, the Moon, Mars, and Planets