Introduction to special section: Recent Advances in Studies of Schumann Resonances on Earth and Other Planets of the Solar System

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[1] Schumann resonances are global electromagnetic resonances, which exist in a cavity formed by the conducting planetary surface and the lower ionosphere. This special section of Radio Science presents a broad collection of papers reflecting the most recent advances in experimental studies of variability of Schumann resonances in the Earth-ionosphere cavity, Schumann resonances on other planets of the solar system, and models and theory of Schumann resonances and their correlations with lightning, sprites, and Q bursts. Several recent years have demonstrated a remarkable growth in studies of Earth-ionosphere cavity resonances, and the idea of this special section has appeared as a natural reflection of the increasing interest of the international scientific community in related topics. I am grateful to Martin Fullekrug, Alexander Nickolaenko, Colin Price, Gabriella Satori, Dave Sentman, and Earle Williams for initial encouragement and enthusiastic support of the idea of this special section. A total of 22 papers has been submitted to this special section, and at the time of this writing, 18 have been accepted for publication. The electronic version of this special section published on the Web also contains links to two recent papers on Schumann resonances published by Radio Science in previous printed issues of the journal [Pechony and Price, 2004; Molina-Cuberos et al., 2006]. I would like to specially highlight the contribution to this special section by Bruno P. Besser on historical development of Schumann resonances, containing in particular a brief biography of Winfried Otto Schumann and his unique picture provided through the courtesy of the Archives of the Technical University of Munich, Germany.

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References


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