

## Updated Review of Lightning Activity on Other Planets

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We review the progress achieved in planetary atmospheric electricity, with focus on lightning observations by present operational spacecraft, filling the hiatus from the latest review by Desch et al. (2002). Numerous new observations of electrical activity in other planetary bodies was obtained, and additionally, laboratory studies and numerical models shed light on the charging and discharging processes operating in solar system environments other than the Earth. We describe the latest observations of lightning activity on Venus, Jupiter and Saturn, obtained by the Venus Express, New Horizons and Cassini missions (accordingly). The latest results from ground-based observations as well as from laboratory experiments conducted in various simulated planetary conditions (surface and atmospheric processes) are discussed. Finally, we review planned future space missions other planets able to address some of the existing gaps in our knowledge.

S.J. Desch, W.J. Borucki, C.T. Russell, A. Bar-Nun, Rep. Prog. Phys. 65, 955-997 (2002)