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Plasma Dynamics in the Solar Corona Revealed from Emission-Line Spectroscopy

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Solar corona, a fully-ionized tenuous outer solar atmosphere recognized during the total eclipse time, is in a temperature of a million degree and is maintained by the energy supply from the subsurface convective motion to the upper plasmas. Bursty events of a broad energy range frequently occur there, and a large event with a plasma eruption and high-energy particles may influence the geospace environment, the surrounding of which is considered to be an extension of the expanding corona. While the solar coronal dynamics have been visualized from recent high-sensitivity imaging observations from space, the plasma parameters for the quantitative investigation have been measured by the emission-line spectroscopy. I present the recent progress in understanding the plasma dynamics in the solar corona that have been obtained from the state-of-art EUV and UV imaging spectrometers from space and briefly introduce future observations planned for the next steps.

References

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