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## The relationship between the IMF and the two-cell aurora

Kai-Wei Weng and Jih-hong Shue

Institute of Space Science, National Central University, Jhongli, Taiwan (92623024@cc.ncu.edu.tw)

The main feature of the two-cell aurora is azimuthally elongated over at least four hours of local time on both the duskside and dawnside. According to the previous research in the occurrency of the two-cell aurora, it was found that a period of southward IMF always occurred before the apperrence of the two-cell aurora. But whether the two-cell aurora will occur when there is a period of southward IMF is still unknown. In this study we shall analyze Polar Ultraviolet Imager (UVI) and Wind magnetic fields data in order to determine the relationship between the IMF and the two-cell aurora. In addition, we shall select the maximum auroral power for the duskside and dawnside as a representation of changes of the intensity of the two-cell aurora. Thus we shall determine how long after a period of southward IMF the two-cell aurora is visible at some defined threshold.