Properties of ionospheric Spread-F observed in Hainan

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Using the Spread-F (SF) data observed by the DPS-4 digisonde at Hainan ionospheric observatory station from March 2002 to February 2005, the properties of four types of SF, i.e., frequency, range, hybrid, and strong SF, are statistically studied. The results show that during the high solar activity year (2002) the Frequency SF (FSF) seldom took place. The Range SF (RSF) mainly took place in July, August and September. The Hybrid SF (HSF) mainly took place in March. The Strong SF (SSF) mainly took place in March, April, and September. During the middle solar activity years (2003 and 2004), the FSF mainly took place in May and June. The RSF seldom took place in every month of 2003 and mainly took place in September 2004. The HSF mainly took place in December 2003 and January, June, and July 2004. The SSF mainly took place in October 2003 and March, April, August, and October 2004. At last, mechanisms of the different type SF formation and relationship between SSF and GPS L-band scintillation are discussed.