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# Monthly variability of longitudinal profile of the equatorial electrojet from the magnetic data of CHAMP satellite

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The purpose of our study is to analyze the impact of the winds on the longitudinal variations of the Equatorial ElectroJet (EEJ). To carry out this study, we used magnetic data delivered by the CHAMP satellite from June 2001 to July 2010. These data enable us to have an overall representation of the EEJ through the longitudinal profiles. The analysis of these different profiles allow us to describe the longitudinal variation as well as its monthly variability. To understand the mechanisms that control these variations, we analyze the diurnal thermospheric winds simulated by the GSWM-2 model. The comparison of the wind profiles and the magnetic effects of the EEJ revealed an important similarity. Four peaks were observed on the wind and the EEJ profiles. The longitudinal positions of the peaks on the wind profiles and those of the EEJ are similar. We inferred that the wind was largely responsible for the variation of EEJ. We notice some differences between the wind and the EEJ profiles. These differences were attributed to overs parameters not study here. The main field effect has also been described.