In situ measurements of Alfvénic waves in the interplanetary coronal mass ejections CHIJIE XIAO, HONGGANG WANG, QINGSHENG LI, HAOMING LIANG, School of Physics, Peking University, Beijing 100871, GUIPING ZHOU, National Astronomical Observatories, Chinese Academy of Sciences, Beijing 100012, XIAOGANG WANG, School of Physics, Peking University, Beijing 100871, ZUYIN PU, School of Earth and Space Science, Peking University, XIAOYI YANG, School of Physics, Peking University, Beijing 100871 — As for the present situation of coronal mass ejection (CME) triggering models, the distributions of Alfvén waves in flux ropes are different from model to model, and thus examining those distributions in interplanetary coronal mass ejection (ICME) is an effective way to connect ICME observations with these theoretical models of CME triggering. However, previous observations of Alfvénic fluctuations in ICMEs were rare with locations ranging from 0.3 AU to 0.68 AU only, which is usually explained as rapid dissipation of those remnant waves. Here we present a preliminary statistical study of Alfvén waves in magnetic clouds (MC) near 1 AU, in situ detected by WIND. The Alfvén waves, slow waves, as well as the power spectral densities of magnetic fluctuation in the MC, are identified and compare with those modes in ambient solar wind. The results will also be helpful for studies of CME theories and ICME thermodynamics.

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