R006-P19
ポスター 1 ：11/24　PM1/PM2 （13:15-18:15）

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High-latitude dayside aurora and transpolar arcs observed during low Alfvén Mach number solar wind

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The high-latitude dayside aurora (HiLDA) and the transpolar arcs (TPAs) usually appear in the polar cap under the northward interplanetary magnetic field (IMF). Previous statistical studies showed that the strength of the solar wind magnetic field or the magnetic energy does not affect the occurrence of TPAs. On the other hand, it has not been studied whether the TPAs and HiLDAs appear when the solar wind density is very low, and thus, its Alfvén Mach number (M_A) is very low (~2 – 3). Here, based on multi-spacecraft observations, we show a case of HiLDA and TPAs during very low M_A solar wind that followed multiple TPAs during high-density solar wind. The brightness of HiLDA was typical (1 – 10 kR) even under the low M_A solar wind condition. In contrast, the TPA under low M_A solar wind was typically single and faint, while multiple TPAs with complicated structures appeared in some periods. The magnetopause locations encountered by ARTEMIS P1 and P2 in the mid-distant magnetotail suggest a strong distortion of the magnetotail that might be related to the shape of the TPAs.