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The observations of Low Frequency Zonal Flow in electrode biasing experiments on J-TEXT tokamak[1] H.G. SHEN, D.F. KONG, H.L. ZHAO, J. WU, T. LAN, W.D. LIU, C.X. YU, USTC, Y. SUN, H. LIU, Z.P. CHEN, G. ZHUANG, HUST, USTC TEAM[2], HUST TEAM[3] — The long-distance correlations features of potential and density fluctuations during electrode biasing (EB) have been investigated using Langmuir probe arrays in the edge of J-TEXT tokamak. During the positive edge EB, both floating potential and density fluctuations in the high frequency ambient turbulence (AT) region are suppressed and radial particle flux is decreased. But no obvious change occurs during the negative edge EB. In the positive EB cases, toroidal and poloidal long-distance correlations of floating potentials increase in the low frequency regions of f<3kHz and no distinct long-distance correlations is found in density fluctuations. It shows that this low frequency long-distance correlation mode is low frequency zonal flow (LFZF). In the meantime, strong E_rxB shearing is observed when applying a positive EB. The results also suggests that the LFZF may be induced by AT and then regulate the AT amplitude.

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