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The measurement of geodesic acoustic mode magnetic field oscillations in J-TEXT tokamak[1] T. LAN, J. WU, H.G. SHEN, T.J. DENG, A.D. LIU, J.L. XIE, H. LI, W.D. LIU, C.X. YU, USTC, China, Y. SUN, H. LIU, Z.P. CHEN, G. ZHUANG, HUST, China — Geodesic acoustic mode (GAM) magnetic field oscillations have been investigated using three-dimension magnetic probe and Langmuir probe arrays in the edge of J-TEXT tokamak. The probe arrays are placed on the two top windows of tokamak, separated toroidally. Inside the LCFS, GAM shows apparent oscillations in floating potential. In contrast, GAM magnetic field oscillations are not significant in raw magnetic fields signals. Using toroidal correlation technique, the GAM magnetic field oscillations are distinguished from ambient magnetic field. The amplitudes of three dimension GAM magnetic field fluctuations, as well as the dependence with local plasma parameters such as safety factor and plasma beta, are coincident with theoretical predictions. And its toroidal symmetry mode structure, i.e. n=0, is identified. Furthermore, the GAM current sheet, in which GAM oscillates, is firstly verified with magnetic probes arrays in different radial positions, which may help us to understand the radial structure of GAM.

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