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**Low frequency magnetic fluctuation in a current sheet in plasma merging experiment** AKIHIRO KUWAHATA, HIROSHI TANABE, SHINGO ITO, MICHIAKI INOMOTO, YASUSHI ONO, University of Tokyo — Low frequency magnetic fluctuation accompanied by magnetic reconnection has been investigated in the TS-3 torus plasma merging experiment. Strong magnetic fluctuations with frequency near the ion cyclotron range were observed within a current sheet at the initial phase of magnetic reconnection under a considerable guide magnetic field  $B_X \sim B_{\parallel}$ , the reconnecting magnetic field. A temporary drop of the guide field strength was observed just before the initiation of the fluctuation. However, the fluctuation disappeared when the guide field was increased to  $B_X \sim 1.5B_{\parallel}$ . Our results indicate that the excitation of the low frequency fluctuation strongly depends on the initial reconnection angle and the guide field reduction. The effect of the magnetic fluctuation on both the reconnection rate and ion heating will be presented.

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