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Slow rotating mode detection using magnetic probes on passive plate in KSTAR HYUNSUN HAN, Y. IN, J.G. BAK, S.H. HAHN, Y.M. JEON, H.S. KIM, National Fusion Research Institute — Since 2015 experimental campaign, to detect a low rotating or fixed non-axisymmetric plasma disturbance, 20 magnetic probes (MPs) which can catch the parallel component of magnetic field have been installed on the passive plate with different toroidal/poloidal positions in KSTAR. To identify n(toroidal mode number) =1 or 2 plasma instability, the Fourier decomposition method is applied and some preliminary results show its effectiveness when the external fields by the in-vessel coils are properly compensated. This identification method has been implemented in the KSTAR plasma control system to avoid the mode locking and the RWM(Resistive Wall Mode) in the future.

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