Abstract Submitted
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**Dual Hot Flux Ropes in the Tokamak Core**[1] G.S. YUN, H.K. PARK, W. LEE, M.J. CHOI, Postech, S.W. YOON, Y.M. JEON, J.H. LEE, National Fusion Research Institute, C.W. DOMIER, N.C. LUHMANN, JR., University of California, Davis, B. TOBIAS, Princeton Plasma Physics Laboratory, A.J.H. DONNÉ, FOM Institute for Plasma Physics, KSTAR TEAM — Dual hot flux ropes interacting in the core of the KSTAR plasmas heated by electron cyclotron resonant waves have been observed by a 2-D ECE imaging diagnostic [1]. The hot flux ropes formed along the m/n=1/1 helical magnetic fields evolve in four distinctive phases: (1) slow growth of a flux rope in the core, (2) sudden emergence of another smaller flux rope co-rotating with the first one, (3) merging of the two, and (4) fast localized crash similar to the sawtooth crash [2]. The observed merging process is consistent with a simple model of two current-carrying wires confined on a flux surface. Implications to the sawtooth control and relevance to the dynamics of solar coronal loops are discussed.

[1] G.S. Yun et al., Rev. Sci. Instr. 81 (2010)
[2] H.K. Park et al., this conference.

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