1151-20-263        **Robert Boltje** and **Cisil Karaguzel\*** (`ckaraguz@ucsc.edu`), Department of Mathematics, University of California Santa Cruz, Santa Cruz, CA 95064, and **Deniz Yilmaz**. *Fusion systems of blocks of finite groups over arbitrary fields.*

To any block idempotent $b$ of a group algebra $kG$ of a finite group $G$ over a field $k$ of characteristic $p > 0$, Puig associated a fusion system and proved that it is saturated if the $k$-algebra $kC_G(P)e$ is split, where $(P, e)$ is a maximal $kGb$-Brauer pair. In this talk, we will investigate in the non-split case how far the fusion system is from being saturated by describing it in an explicit way as being generated by the fusion system of a related block idempotent over a larger field together with a single automorphism of the defect group. (Received August 20, 2019)