Development progress of plasma shaping controls in KSTAR
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General Atomics, KSTAR TEAM — An axisymmetric magnetic shape control sys-
tem has been developed for creations and sustainment of double-null diverted shape
of KSTAR, based on the real-time EFIT/isoflux algorithm. The real-time EFIT
scheme is modified to deal with the influences of magnetic materials inside the mag-
net system. On the design of the isoflux algorithm, various techniques were used in
order to decouple the coil responses by the shape changes from the plasma current
feedback responses. In this work, we show experimental application results of the
developed controls on the KSTAR at the 2011 plasma campaign, and analyze the
effects of shaping on the plasma performances.

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