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Investigation of Resistive Wall Mode Internal Struc ture,[1] I.N. BOGATU, Y. IN, J. KIM, FAR-TECH, Inc., AND DIII-D RWM THRUST TEAM — Soft x-ray (SXR) signals have great potential to provide the internal structure of resistive wall modes (RWMs), which are typically diagnosed by integrated magnetic signals located well outside the plasma. In particular, recent studies show that the SXR signals are very sensitive to an RWM in its early stage of onset, even before it was detected by magnetic sensors. Furthermore, the RWM internal structure evolution measured by SXR was found to be correlated with plasma rotation, perturbed magnetic fields, and electron temperature. In addition, internal RWM displacements detected by SXR in the main plasma are accompanied by variations in the divertor poloidal magnetic field and radiation power in the divertor. Studies of the correlation between the internal RWM structure and divertor observations will be reported.

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