

Abstract Submitted  
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**FeSe<sub>0.5</sub>Te<sub>0.5</sub> thin film Josephson junction on SrTiO<sub>3</sub> bicrystal substrates** WEIDONG SI, CHENG ZHANG, XIAOYA SHI, QIANG LI, Brookhaven National Laboratory — Josephson junctions were fabricated in the epitaxial FeSe<sub>0.5</sub>Te<sub>0.5</sub> thin films on [100] tilted SrTiO<sub>3</sub> bicrystal substrates with a CeO<sub>2</sub> buffer layer. These junctions with a 24 degree of grain boundary misorientation show a typical resistive-shunt-junction like current-voltage behavior. Critical current densities across the grain boundary in these junctions were observed to be remarkably suppressed and modulated by the magnetic field. Films without the grain boundary show a critical current density much higher than those with the grain boundary. These results indicate a Josephson Effect in those grain boundary junctions.

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