487. Title:High quality factor HTS Josephson junctions on low loss substrates
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Abstract:We have extended the off-axis biepitaxial technique to produce YBCO grain boundary

junctions on low loss substrates. Excellent transport properties have been reproducibly found, with remarkable values of the quality factor I c Rn (with Ic the critical current and R n the normal state resistance) above 10 mV, far higher than the values commonly reported in the literature for high temperature superconductor (HTS) based Josephson junctions. The outcomes are consistent with a picture of a more uniform grain boundary region along the current path. This work supports a possible implementation of grain boundary junctions for various applications including terahertz sensors and HTS quantum circuits in the presence of microwaves.