

FEASIBILITY STUDY OF $\sim 50\text{MV/m}$ BY SINGLE CELL CAVITIES

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Abstract

To provide the design goal of ILC Technical Design Report with SC RF cavities, the low loss type ICHRO 9-cell cavity is under development in KEK. As known the performance of high gradient SC RF cavity is deeply dependent on the surface conditions and qualities of post-fabrication processes. The single-cell cavities, of which E_{acc} is expected as high as $\sim 50\text{MV/m}$, were prepared to study the performances of cavity geometry and conditions of post-processes such as centrifugal barrel polishing (CBP), chemical polishing (CP), electropolishing (EP), high pressure water rinsing (HPR), baking and so on. This report shows the feasibility of new shape cavity with E_{acc} as $\sim 50\text{MV/m}$ and high Q_0 .

NO SUBMISSION RECIEVED