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## Radio frequency surface resistance measurement of metals for accelerator vacuum chamber

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Vacuum chamber RF surface resistance may play a significant role in beam instabilities of charge particle accelerators. Several dedicated choked TE<sub>010</sub>-mode resonators with 2 and 3 chokes were designed and built in ASTeC for surface resistance measurements of planar samples.

In this paper we report our study on improving the accuracy of surface resistance measurements and possible sources of errors. Three 7.8 GHz cavities made of copper, aluminium and niobium and ten (?) different well known samples (copper, aluminium, tin, please add others) were employed to prove this method and demonstrate the errors. Good agreement between measured surface resistance values and those predicted by the employed theoretical model demonstrated the suitability of the described technique for RF surface resistance measurements.

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