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## Improvements to Trim Coil Power Supplies at TRIUMF

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The TRIUMF 520 MeV cyclotron requires a precise magnetic field in order to operate. 55 pairs of trim coils allow small corrections to be made. In 2013, the ageing 110 trim coil power supplies were replaced with new switch mode power supplies. This greatly improving reliability and performance.

Trim coil tuning is accomplished by making small changes to individual coils in an effort to improve cyclotron performance. Some of coils run near their power supply limits, making further changes difficult. An application is currently under development that will optimize the power supply settings while maintaining the initial magnetic field. The goal is to reduce the output of the power supplies and increase the available range for tuning.

The initial tests of the program show encouraging results. Possible errors exist in the underlying magnetic field data that may need to be resolved. Further improvements are still in development.

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