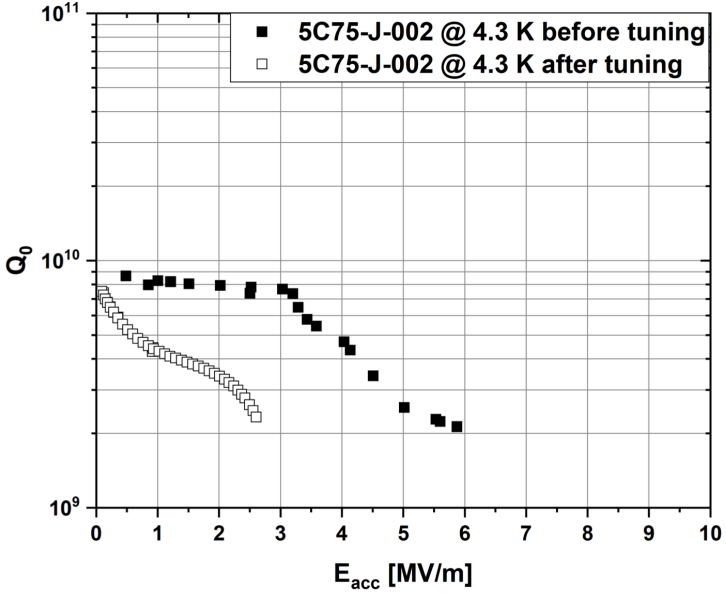
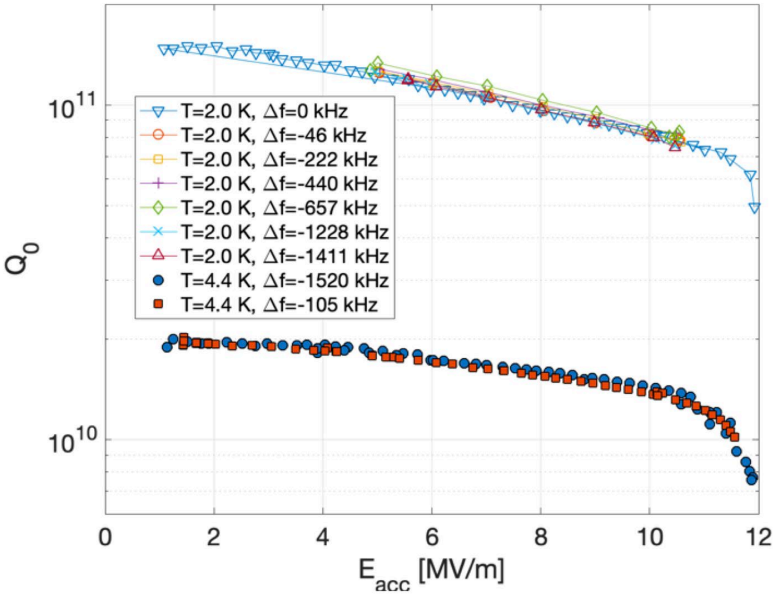
Tunability / robustness of Nb_3Sn

Coated cavities can be very sensitive to mechanical deformation



Strong degradation in the coated cavity performance after room temperature tuning for 200 kHz



Little change in the coated cavity performance after tuning up to 1400 kHz at cryogenic temperatures

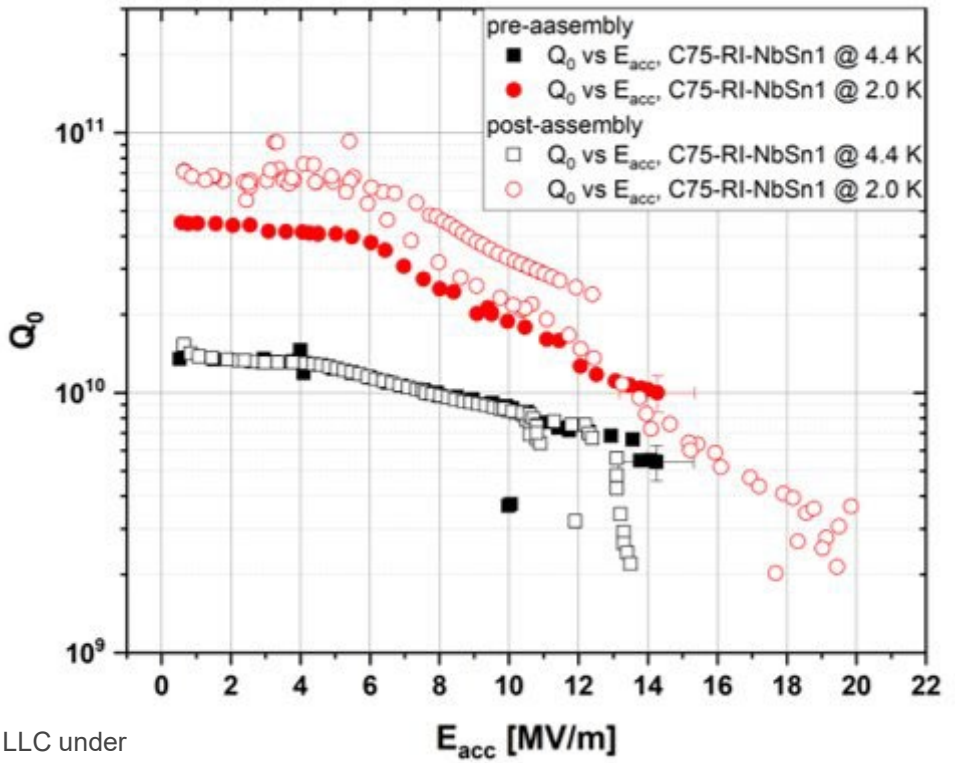
Tunability / robustness of Nb_3Sn

By now we have coated and progress towards string assembly several cavities. Unfortunately, it is not just mechanical tuning to the accelerator frequency on the tuning bench that degrades the performance

Mechanical tuning: increase in surface resistance and field dependence

No mechanical tuning: low field Q is retained, but still strong field dependence

No mechanical tuning & no "pair" test: performance is better retained in one cavity and…



This manuscript has been authored by Fermi Research Alliance, LLC under Contract No. DE-AC02-07CH11359 with the U.S. Department of Energy, Office of Science, Office of High Energy Physics.

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