Contribution ID: **6** Type: **Oral**

Measurement uncertainty in the RF system control of a particle accelerator

Wednesday, October 25, 2023 1:58 PM (4 minutes)

When talking about microwave/RF power system in Particle Accelerator, we usually refer to amplitude, phase and frequency stability as key indicators, whether these indicators are given by our self-made LLRF system or the results given by third-party standard measuring instruments. Not only that, when measuring some specific microwave parameters of the system, such as the QValue of the cavity, some active and passive microwave devices, it is also possible to use self-made LLRF or third-party standard instruments, whether using standard or customized as measurement tools, when giving conclusions, uncertainty should be introduced to characterize the discrete characteristics of these results and possible true values, so as to improve the recognition of our measurement methods and results, and enhance the credibility of the data.

Keyword

Measurement uncertainty, magnitude, phase, frequency, phase noise, stability, precision, calibration

Primary author: LIU, RONG (Beijing Normal University)

Session Classification: Posters

Track Classification: Measurement and control