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Measurement of Cavity Detuning in Storage Ring RF Systems

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In this contribution I will describe a method for determining cavity detuning in the CW storage ring RF systems. This method uses a vector network analyzer integrated in the LLRF system to determine the reflection coefficient versus frequency at the cavity feed port. Resulting measurement can then be fitted to extract cavity center frequency as well as other parameters of interest. The major advantage of this measurement approach is that it is relatively insensitive to the feedback loop settings. Bench measurement results will be shown.

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