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# Commissioning of the RF system for the ThomX storage ring

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The RF system of the ThomX storage ring consists in a 500 MHz single cell copper cavity of the ELETTRA type, powered with a 50 kW CW solid state amplifier, and its associated Low-Level RF feedback and control loops. The low operating energy of 50 MeV makes the impedances of the cavity higher order modes (HOMs) particularly critical for the beam stability. Their parasitic effects on the beam can be cured by HOM frequency shifting techniques, based on a fine temperature tuning and a dedicated adjustable plunger. A cavity temperature stability of ± 0.1 ℃ within a range from 30 up to 70 ℃ is achieved by a precise control of its water-cooling temperature. On the other hand, the tuning of the cavity fundamental mode is achieved by changing its axial length by means of a mechanical tuner. This report describes the setup of the facility and the results of the commissioning.

## Funding Agency

## Footnotes

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Yes

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