



Contribution ID: 27

Type: **Oral contribution**

Numerical analysis of higher-order mode couplers

Tuesday 7 October 2025 09:00 (30 minutes)

This talk presents numerical methods for analysing Higher-Order Mode (HOM) couplers in elliptical TESLA-type superconducting radio-frequency (SRF) cavities. Emphasis is placed on practical simulation approaches, including S-parameter calculations, basic optimisation, sensitivity analysis and uncertainty quantification, and multipacting studies. The discussion will show how these tools can be used together to evaluate damping efficiency, check design robustness, and guide the design process.

Primary authors: UDONGWO, Sosoho-Abasi (Brandenburgische Technische Universität Cottbus-Senftenberg); Prof. FLISGEN, Thomas (Brandenburgische Technische Universität Cottbus-Senftenberg)

Presenter: UDONGWO, Sosoho-Abasi (Brandenburgische Technische Universität Cottbus-Senftenberg)

Session Classification: Numerical Simulations for SRF Cavities

Track Classification: Numerical Simulations for SRF Cavities