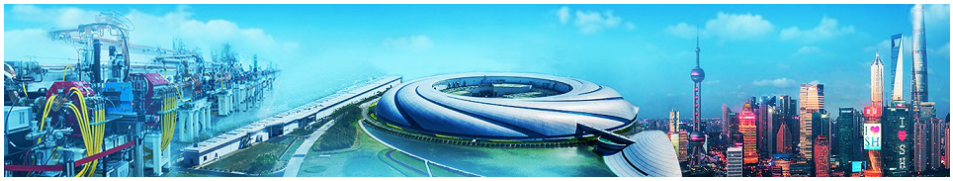

Contribution ID: **50** Type: **not specified**

# Design of high gradient LINAC with the new Gasket-Clamping technique and compact low pulsed heating couplers

*Thursday 7 June 2018 11:50 (25 minutes)*

Recently, a new technique for the realization of high gradient accelerating structures, based on the use of special gaskets has been implemented for the realization of the new SPARC_LAB and ELI-NP RF guns.
They have been successfully tested at high power leading to new perspectives in the realization of high gradient structures. The new technique has been developed at the Laboratories of Frascati of the INFN
(Italy) and make use of special gaskets that simultaneously guarantee vacuum seal and perfect RF contact. The implementation of the gaskets allow avoiding the brazing process, strongly reducing the cost, the realization time and the risk of failure. Moreover, without copper annealing due to the brazing process, it is possible to decrease the breakdown rate increasing the maximum achievable gradient.
The next step is the application of this technique to the fabrication of complex S, C or X- band LINAC structures. In the paper, after a short introduction on the experimental results obtained with the RF guns we illustrate in detail the electromagnetic and mechanical design of a high gradient S-band Linac structure now under fabrication.
In the last part of the talk we will also address at new compact low pulsed heating geometries recently developed for clamped and brazed structures.

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**Session Classification:** RF Design