



### **Construction Status of the Juelich Triple Spoke Resonator**

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### **Abstract**

The triple spoke resonator 352 MHz as designed and built by Forschungszentrum Jülich is now ready for cold measurements.

## Deliverable reached

This note shall prove that the assigned deliverable “Triple spoke resonator ready for measurements” has been reached.

In May 2008 the final weld for closing the resonator could be applied in the Juelich electron beam welding machine. Figure 1 shows the resonator as it had been set-up for BCP at CEA Saclay.

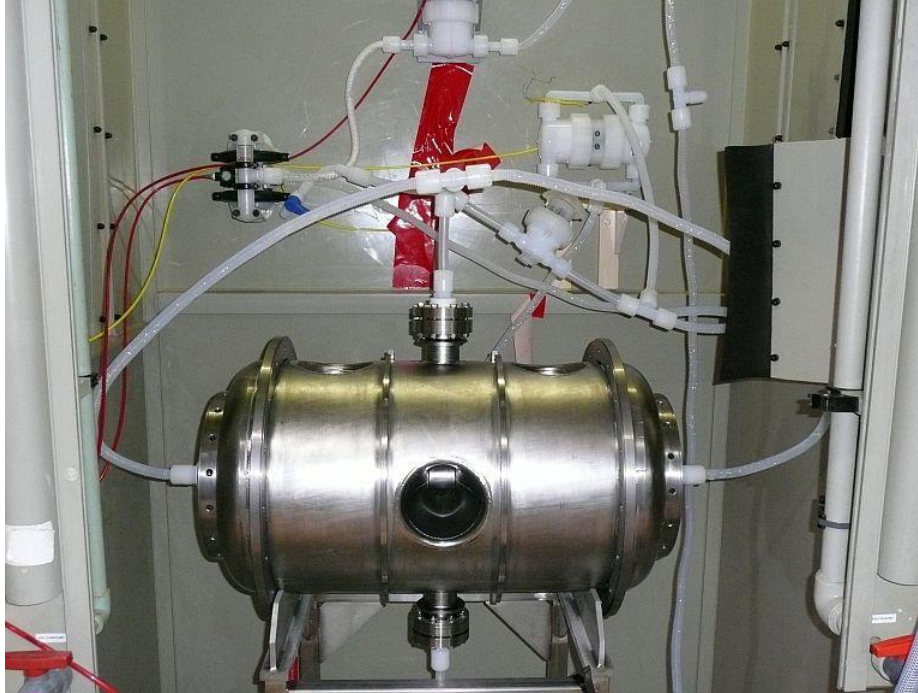


Fig. 1: The Juelich triple spoke resonator at the BCP bench at CEA, Saclay. At the rear left there is the pump for the acid, at the rear right there is the pump for ultra pure water.



Fig. 2: The resonator shortly before transportation to IPN Orsay for HPR.

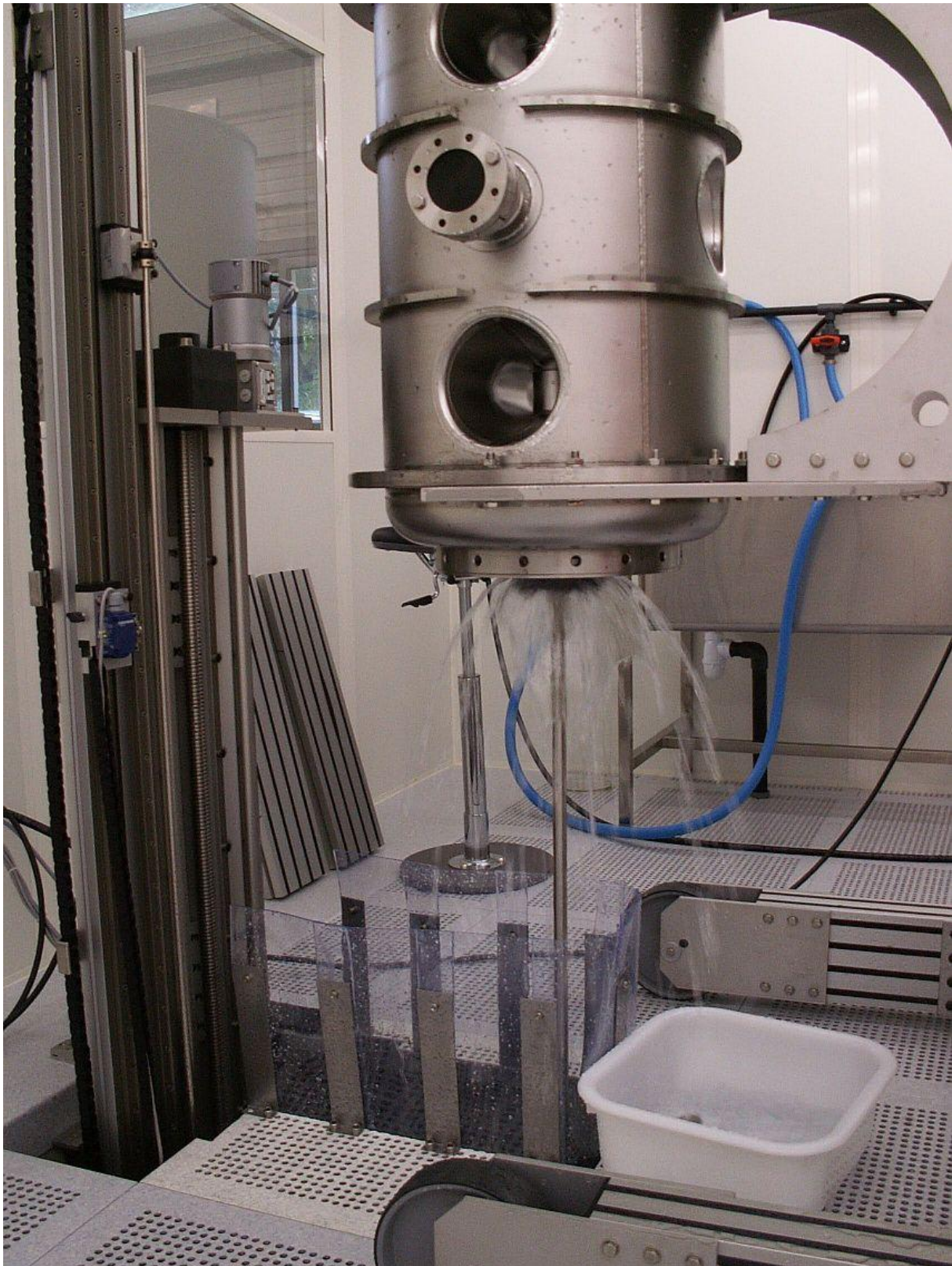


Figure 3 shows the triple spoke resonator during HPR in the clean room at IPN Orsay.

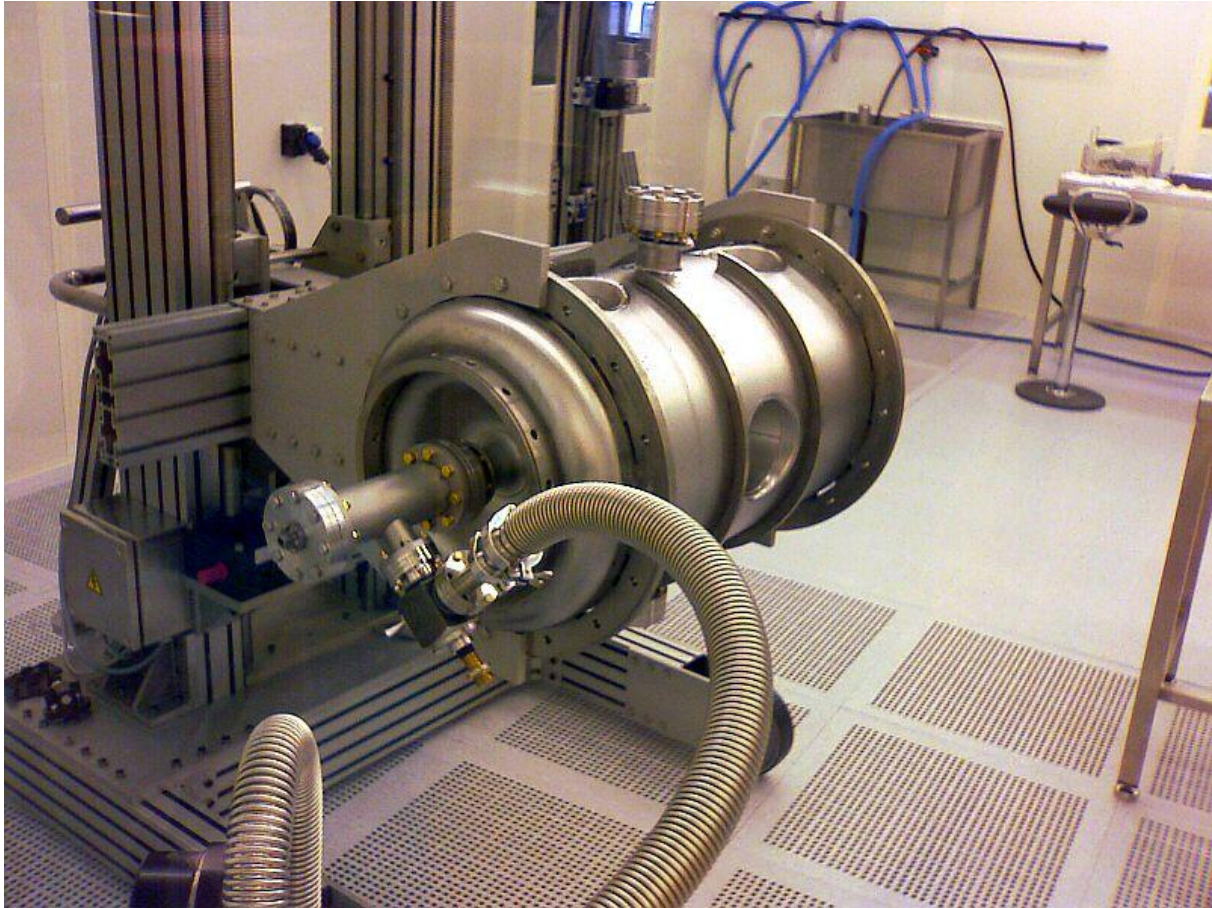


Fig. 4: Triple spoke resonator after final assembly in the clean room at IPN Orsay. Shown is the set-up for leak test and subsequent filling with purified nitrogen. Notice the RF connector at the T-connector assembled to one of the beam ports of the resonator where the field probe is located. The coupler is mounted at the other beam port (not visible here). Coupler and field probe have been designed according to the results of G. Olry (private communication).

The resonator now is chemically clean, has been high pressure rinsed and finally closed at IPN Orsay. At the end of the HPR process the dry resonator was filled with a slight over-pressure of purified nitrogen. After shipment back to Juelich the resonator is ready for further installation work since 5-Jun-2008.

Further installation work means that the resonator has to be prepared for insertion into the Juelich bath cryostat. Cold measurements are expected to start about end of July / beginning of August, 2008.

This achievement has been possible due to the joint effort of Juelich staff to design the cavity and complete the mechanical work, of CEA Saclay staff for BCP, and of IPN Orsay staff for HPR, making this resonator a true European one.

A note on further details of the BCP process and of the HPR process is in preparation.

## Acknowledgements

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