

# WP 16 Video Meeting

---

Date: 27.02.2020

Time: 3 to 4 p.m.

Hosted by: CERN (A. Rossi/S. Sadovich)

Invited: A. Rossi, S. Sadovich; P. Apse-Apsitis; O. Meusel, M. Droba; S. Artikova, D. Ondreka

Participants: A. Rossi; P. Apse-Apsitis; O. Meusel, M. Droba; S. Artikova, D. Ondreka

Indico-Page: <https://indico.cern.ch/event/890938/>

## 1 Report from TE<sup>2</sup> tests with modulator at IAP

*(Presented by O. Meusel, P. Apse-Apsitis)*

From 10 to 12 February, tests of the RTU modulator operating on the TE<sup>2</sup> gun were performed at IAP by a team from both IAP and RTU.

As there is as of yet no permission by the IAP safety responsables for extraction of electrons from TE<sup>2</sup> with potential, the tests had to be performed without electron extraction. Instead, the grid was operated against the static electron cloud created by the hot cathode.

The modulator used in the tests was a four-stage prototype of the final multi-stage amplifier design developed by RTU. This prototype was capable of delivering up to 800 V output voltage. Also, the modulator with its signal generator is now controlled via optical fibers, such that operation on a HV platform is possible.

Several tests were executed to check the performance of the four-stage modulator:

- The HV waveform was tested okay with cold cathode while the modulator output was connected to the grid.
- With cathode heated to 1800 K, the modulation was tested in presence of the electron cloud emitted by the cathode. In a second step, those electrons were trapped by a magnetic mirror, so that the modulator had to do work to shift the electrons back and forth. No negative influence on the performance of grid and modulator was observed.

## 2 TE<sup>2</sup> gun: Status

*(Presented by O. Meusel)*

M. Droba and J. Rausch visited the CERN test stand to clarify details of the integration of the modified TE<sup>2</sup> for integration into the CERN test stand. This device is presently being prepared in the IAP workshops. It is expected to be ready by end of March.

## 3 CERN Test Stand: Status

*(Presented by A. Rossi)*

The CERN test stand is presently undergoing modifications, that will be completed by end of March. Subsequently, the test stand will be occupied for some time for tests with the CERN HEL gun.

Tests with TE<sup>2</sup> are possible only starting from summer (June) this year. Until then, all safety issues related to the operation of TE<sup>2</sup> and the modulator on CERN premises need to be sorted out. This requires some input from IAP and RTU.

It was agreed, that IAP provides technical drawings and technical parameters of TE<sup>2</sup> to CERN. **(Action: M. Droba)**

Likewise, RTU will provide technical parameters of the modulator to CERN. **(Action: P. Apse-Apsitis)**

## 4 Preparations for Annual Meeting

Two highlight talks had been proposed for WP16 by the WP coordinator to the organizers. The organizers, however, accepted only a single highlight talk on first experience with the gun. IAP informs that this talk will be given by M. Droba.

The WP collaborators agree that there will be no WP parallel meeting organized during the annual meeting. Instead, the collaborators attending the annual meeting will meet informally.

A WP meeting in person is foreseen for calendar week 22 (the week starting 25 May) at IAP.

## 5 Information about preparation of Periodic Report 2

Periodic Report 2 (P2) is due soon. The report will cover WP achievements since the P1 report, i.e. the time span from November 2018 to April 2020. The ARIES project management will distribute templates which need to be filled by the WP coordinator and task leaders.

The project management emphasizes that the indications on the limit of the size of the contributions are to be strictly respected, since the EU officer had some critics about the P1 report being too extensive.

For WP16, the WP coordinator will distribute the template to the task leaders as soon as they have been issued by the project management. **(Action: D. Ondreka)**

## 6 Next Events

The ARIES annual meeting will take place from 22 to 24 April in Lisbon.

A WP16 face-to-face meeting at IAP is planned for CW 22 (week starting 25 May).