

THE 7th 2nd HARMONIC COLLABORATION MEETING

PROGRESS OF THE LOW IMPEDANCE RF SYSTEM BY COLLABORATION
from October 2000 thru August 2002

1. History

- Oct '00: 6th collaboration meeting at KEK,
all modules delivered in KEK,
interphase transformer shorted to the T/R set sidewall.
- Nov '00: with G Pile
interphase transformer re-fitted,
soft-start failed due to inrush current into the buck regulator,
manual-start manufactured instead.
- Mar '01: with D Horan and J Dooling
new step-start circuit implemented,
cavity impedance measurement with a loop wire.
- May '01: main breaker blew by the discharge in the T/R tank,
(insufficient oil level for the 32KV terminal)
- Jul '01: new cavity-voltage monitor from J Hirst.
- Jul-Aug '01: with D Horan and M Gaudreau(DTI)
repair the TR set and buck regulator,
investigation of the 10KHz noise from the buck regulator,
re-fill oil in the T/R tank to the correct level.
- Sep '01: with J Dooling
cavity impedance measurements in a swept mode,
output impedance measurement,
water leakage at the bias regulator flow-meter.
- Mar-Apr '02:
over-current into the output capacitor of the EEV1643 triode,
choke installed to suppress the current peak,
free wheeling diode from DTI to protect the open switch.
- Jul '02: Burle4648 valve replaced by the ISIS brand-new one,
heater voltage fed to grid-supply return line,
(50Hz-ripple suppression, suggested by R Bendall),
output impedance less than 30ohms obtained,

THE 7th 2nd HARMONIC COLLABORATION MEETING

high-power RF test in a fixed-frequency mode.

Jul-Aug '02: with D Horan and M Middendorf

bleeder resistor installed to suppress excessive charging into BR,
test dc filament power supplies to Burle4648,
high-power RF test in a swept mode at 50Hz.

2. Achievements

RF system, (S Takano)

output impedance < 30 ohms, (T Oki)

high-power RF test in a swept mode almost at class A, (D Horan)

3. To-Do list

- 50Hz switching of the final anode power supply,
- fix final anode choke and free wheeling diode to the correct place,
- crate grid power supplies to one chassis,
- establish remote control system of the present system,
- investigate the ISIS control system to incorporate the present system,

4. For the planning meeting on Wednesday, Aug 7

- shipping by the end of March 2003(?),
- installation at ISIS,
- beam test in comparison with the beam feed-forward method,

Y Irie