

ISOLDE RILIS upgrade (priority 1)

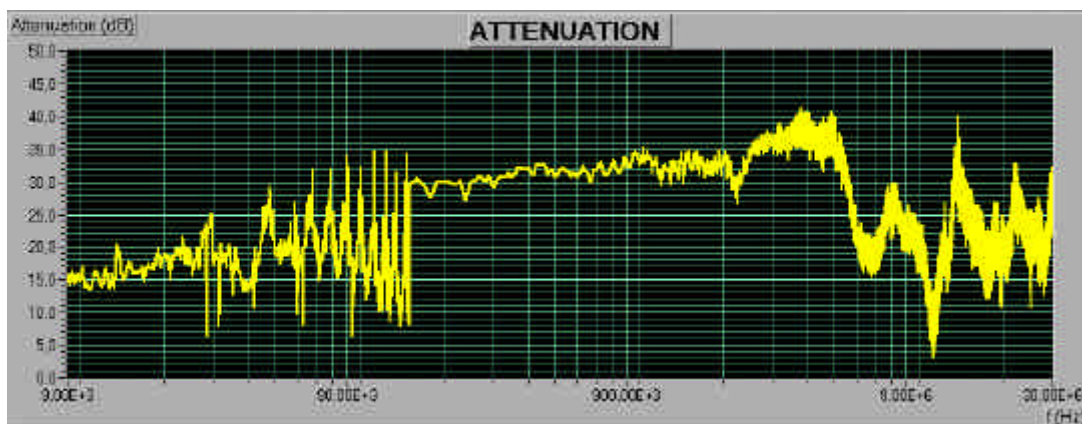
1. Extension of laser hut including entry porch - *completed*

- lasers operational again in week 19 (3 months delay of construction!)
- spent: 34436 CHF



2. RF shielding – *not completed*

- hut consists now of panels with two 0.5 mm thick steel plates (painted!)
- not yet interconnected
- honeycomb grids for ventilation holes 2015 CHF
- > 30 dB attenuation from 150 kHz to 5 MHz



- slit antenna > 10 MHz
- reduced attenuation in low-frequency regime

To be done:

- installation of the net filter requires an additional insulating transformer > 20 kW (old one was too small)
- wait for arrival of new (already better shielded) CVL system before decision on additional measures:
 - additionally insulating transformer
 - connect panels
 - metal brushes on sliding doors

3. Laser safety measures – *priority 1 completed*

- laser beam enclosure, 1704 CHF
- laser goggles (consumable budget)
- to be continued in priority 2 phase (item 9 below)

4. Fiberswitch for multiplexing 3 inputs to wavemeter – *in preparation*

- offer received, about 6000-8500 CHF including fibers and couplers
- decision of control: analog, serial or parallel interface?

5. Beam diagnostics – *to be done*

- CCD camera sensitive from 210 to 850 nm
- 3 remote-controlled beam shutters plus attenuators
- model not yet chosen, depends on decision for "new PS standard frame grabber"

6. Remote-controlled beam tuning - *not completed*

- 2 sets of 3 Newfocus picomotor mounts each for GPS and HRS installed and successfully tested in manual remote control mode (22468 CHF incl. driver etc.)

To be done:

- still to order: 2 large aperture automatic shutters
- computer remote control of multi-axis driver and programmable loop for feedback with beam profile monitor (PS/CO)

7. Optimize frequency doubling system (BBO) – *to be done*

- Problem of 2-photon absorption in BBO is under study in PP-LP: a nonlinear crystal LBBO with better UV transmittance was ordered for test at CTF2/CTF3
- Currently stable operation is possible only at reduced UV power – affects mainly Be and Cu ionization efficiency

8. Adapt CVL-RF system to optimize thyatron lifetime

- little costs but support from PS/RF or PS/PO required

ISOLDE RILIS upgrade (priority 2)

9. Improvement of CVL beam guidance

- closed tubes and adapted holders for beam splitters and mirrors
- prototype developed by ATRIX (ca. 55 kCHF total)
- postponed till Slava's full recovery

10. Automatized dye laser control

- 2 new remote controlled dye lasers plus 2 dye amplifiers (ca. 38 kCHF)
- 11 dye laser power monitors plus multi-channel readout (ca. 20 kCHF)
- items could be ordered soon, but presently postponed for budget reasons
- support for readout (together with 2. fiberswitch) and feedback from PS/CO

Planning of RILIS development during shutdown 2001/2002

1. Ionization of new elements

- New ionization schemes for 1 or 2 elements will be tested in December 2001
- Possible candidates: Ge, Sb, Sc

2. Installation of new CVL systems

- Delivery date is not determined, depends of Slava's recovering
- Adaptation of CVL discharge circuit for EEV thyratrons could be needed

3. Construction of the beam diagnostics system