I
TANDEM

In 1996 the tandem accelerator was in operation for 6300 hours. Since the life time of the stripper foils has been increased substantially [1] the periods between tank openings are now in the order of 6 months. Unscheduled maintenance was necessary for two Pelletron idler wheels and a high voltage tank feed-through. The latter was modified to withstand higher voltage surges caused by sparks. Operating statistics are shown in fig. 1 and table 1.

In a major maintenance period between March 18 and May 5 we installed an analyzing magnet with higher mass energy product and modified the beam lines as described in a separate contribution to this report.

Further modifications and maintenance activities are listed below:

The corona points assembly was modified mainly for easier replacement of the corona needles. We took care to achieve good electrical connections of the grounded parts, this resulted in a longer life time of the needles. The connection of the control computer to the Pelletron charging power supplies and to the column/tube current measuring amplifiers was made with fiber optic links.

To improve the reliability and the speed of the infrared link to the terminal of the tandem we installed a new commercially available system of transmitters and receivers (Leuze DDLS 78.6).

For the motor control of the slits new boards with microprocessors were developed and installed.

We modified the Faraday cup control so that the control system connects the first activated cup (in the order from the ion source to the target) to the beam current meter and sets the range and the polarity of the meter adequately.

The two switching magnets were equipped with more stable and reliable power supplies (Danfysik System 8000).

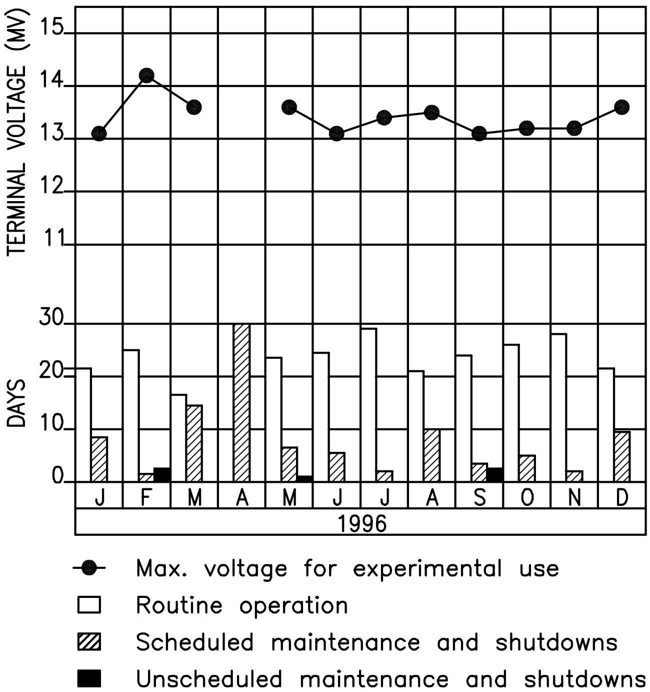

Fig. 1: Operating voltages and times.

ION	^{1}H	^{2}H	$\vec{H}$	^{4}He	^{9}Be	^{26,27}Al	^{28}Si	^{31}P	^{32}S
PERCENT	4.9	10.9	3.3	2.5	0.6	7.2	0.6	1.6	24.4
ION	^{36}Cl	^{48}Ti	^{53}Mn	^{56}Fe	^{60}Fe	^{58,59}Ni	^{127}J	^{197}Au	OTHERS
PERCENT	3.5	1.4	2.7	3.3	0.4	9.3	18.9	1.6	2.9

Table 1: 1996 ion beam time

References

[1] G. Dollinger and P. Maier-Komor, Nucl. Instr. Meth. **A303** (1991) 50