Tandem Operation

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In 1995 the tandem logged 6300 hours of operation. Operating statistics are shown in fig. 1 and table 1.

There were no problems with accelerating tubes, charging chains or voltage dividing resistors. In March the original terminal bars and adjacent equipotential hoops were replaced by a closed, roughly barrel shaped spinning, which reduces the field maxima at the ends of the high voltage terminal by appr. 15 %. This enabled us to raise the terminal voltage easily to 15 MV. The consequently also higher stored energy, released during electrical discharges, required improvements in the locking mechanism of equipotential hoops and in the protection of electronic equipment in the terminal and near the tank. The computer control system of the accelerator was developed further. New parts of injectors, tandem, beam transport system, and experiments were connected to it and some features were added to the man-machine-interface. In August a planned shutdown of 4 weeks duration was dedicated mainly to extensive maintenance work in the beamline system and to the above mentioned improvements in the terminal equipment.

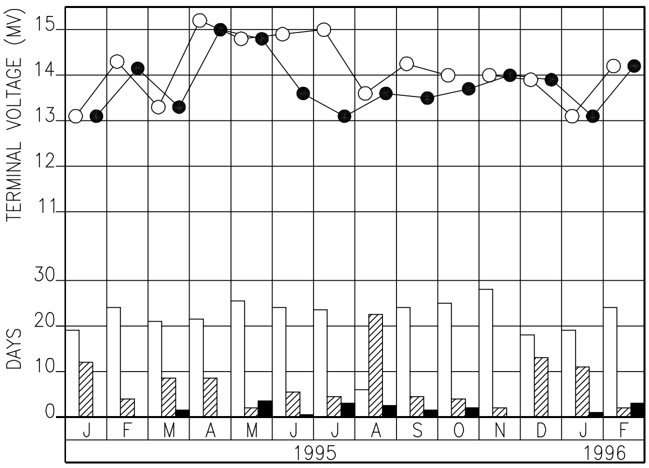

Fig. 1: Operating voltages and times

Max. voltage for experimental use
Max. test voltage
Routine operation
Scheduled maintenance and shutdowns
Unscheduled maintenance and shutdowns

ION	^{1}H	^{2}H	$^{1}\overrightarrow{H}$	$^{2}\overrightarrow{H}$	^{3}He	^{16}O	^{26}Al	^{32}S
PERCENT	9.4	8.5	2.9	4.1	4.4	2.5	7.9	18.3
ION	^{36}Cl	^{48}Ti	^{56}Fe	^{60}Fe	^{58}Ni	^{127}J	^{197}Au	OTHERS
PERCENT	2.3	3.8	4.2	1.3	4.4	18.1	2.7	5.2

Table 1: 1995 ion beam time