I
TANDEM

Tandem Operation

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In 2001 the tandem accelerator was running for 6600 hours. Operating statistics are shown in fig. 1 and table 1. Unscheduled tank openings were necessary for replacing Pelletron idler wheels and a high voltage tank feed through.

In a major maintenance period in September we improved the gas stripper mechanism. The gas stripper is pivoted, it is moved out of the beam line when the foil stripper is used. In the old design the drive was a solenoid working against a spring and gravity. For reasons of higher reliability this was replaced by a motor with a magnetic vacuum feed through and a gearing mechanism on the vacuum side. The stripper position is monitored with an optical shaft encoder.

A new high voltage stabilisation system with a new generating voltmeter was installed. It is integrated into the computer control system of our facility so that one can control all parameters from any desk top in the lab. One can switch over to different operating modes as 'monitor', 'generating voltmeter control' or 'slit control' as usual. But the system can also perform more sophisticated tasks like switching between two parameter sets (including parameters of the injector and the beam transport system). This feature is used for AMS measurements.

Two new beam lines were implemented, one in target room 2 for MAFF accelerator tests and the other one in target room 3 for shiptrap.

The conversion of the personal computers for the accelerator control system to Windows NT or Windows 2000 is completed.

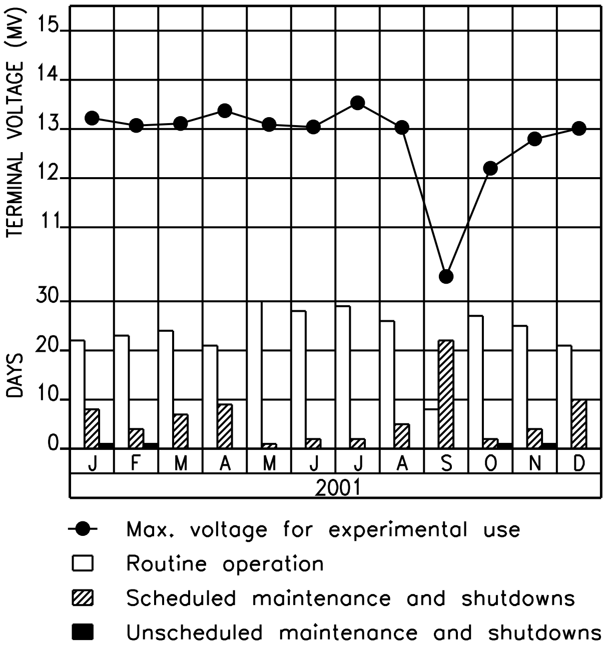

Fig. 1: Operating statistics

ION	^{1}H	^{2}H	^{7}Li	^{11}B	^{12}C	^{26,27}Al	^{32}S	^{36}Cl	^{40}Ca	^{52}Cr	^{53,55}Mn
PERCENT	8.0	12.4	2.9	5.1	2.2	4.7	8.8	6.2	1.1	2.2	2.6
ION	^{54,56}Fe	^{58}Ni	^{63}Ni	^{80}Se	^{89}Y	^{107}Ag	^{127}J	^{129}J	^{181}Ta	^{197}Au	Others
PERCENT	1.8	4.0	2.2	2.9	2.6	9.9	2.2	1.4	1.5	13.9	1.4

Table 1: 2001 ion beam time