

ENTRY NO. **C77** Date **October 13, 1995**
 Name of Machine **U-150**
 Institution **Nuclear Physics, Tashkent**
 Address **Tashkent, UZBEKISTAN**
 Tel **616146** Telex **---** Fax **648430** E-MAIL **YULDASHEV@iac.tashkent.uz**
 In Charge: **Rylov** Reported by: **Rylov**

HISTORY
MILESTONE DATES:
 Design **1956** Model Tests **1964**
 Construction **1963** First Beam **1964**
DESIGN/CONSTRUCTION BY:
 in house Inst. other **NIIEA, Leningrad, Russia**
 COST: Accelerator **\$2,0mil** Facility **\$1,0mil**
 FUNDED BY: **CKAZ, USSR**

STATUS
STAFF: Machine
 Scientists **30** Engineers **30**
 Technicians **10** Students **10**
 Research (in house/external)
 Scientists **30** / Engineers **15** /
 Technicians **10** / Students **20** /
BUDGET: Machine budget Funded by **Academy of**
Research budget Funded by **Sciences**
TIME DISTRIBUTION:
 Basic Research (in house/external) **20** % / **-** %
 Applied Program (in house/external) **80** % / **-** %
 Maintenance **10** % Development **5** %

MAGNET
POLE PARAMETERS:
 Diameter **150** cm $R_{extract}$ **66,7** cm R_{inject} **0** cm
HILL PARAMETERS: Gap (min) **---** cm B_{max} **---** T
 (@ **---** AT) Gap (max) **---** cm B_{min} **---** T
VALLEY PARAMETERS: Gap (min) **---** cm B_{max} **---** T
 (@ **---** AT) Gap (max) **---** cm B_{min} **---** T
AVERAGE FIELD: ** B_{min} **0,8 T B_{max} **1,4** T
NUMBER OF SECTORS: compact/separated **---** / **---**
 sector angle **---** deg. spiral (max) **---** deg.
FIELD TRIMMING: Trim Coils **2** pairs
 Harmonic Coils **8** pairs
 Other **---**
CURRENT: Main Coils **1000** Amps Stability **0,01**
 Trim Coils **600** Amps Stability **0,01**
 Stored Energy (cryogenic) **---** MJ
WEIGHT: Iron **220,0** tons. Conductor **12,0** tons.
ION ENERGY: Bending Limit $E/A =$ **22,0** q²/A² MeV/u
 Focusing Limit $E/A =$ **22,0** q/A MeV/u

ACCELERATION SYSTEM
FUNDAMENTAL ACCELERATION:
 Description: **Classic**
 No. of Gaps/turn **2** $dE/dn(max)$ **0,2** MeV/q
 Voltage (max) **0,2** MV Harmonic f_r/f_{ion} **---**
 Freq **8 - 16,5** MHz Power in(max) **0,3** MW
 Stability: Phase **1%** Voltage **0,1%**
OTHER CAVITIES (Flattopping or otherwise):
 Description: **---**
 Region of Influence: R_{min} **---** cm R_{max} **---** cm
 No. of Gaps/turn **---** $dE/dn(max)$ **---** MeV/q
 Voltage (max) **---** MV Harmonic f_r/f_{ion} **---**
 Freq **---** MHz Power in(max) **---** MW
 Stability: Phase **---** Voltage **---**

VACUUM SYSTEM
OPERATING PRESSURE:
PUMPS: (No. and type) **2** oil pumps
--- **3** mech. pumps

ION SOURCE(S)
 Type Intensity @ $\epsilon_n = \beta\gamma\epsilon$ Ion Species
 (mA) (π mm mrad)
 (a) **PIG** **4** **1,0**
 (b) **---** **---** **---**
 (c) **---** **---** **---**
 (d) **---** **---** **---**

INJECTION SYSTEM
 Radial Efficiency **50** %
EXTRACTION SYSTEM
 Deflector Efficiency **30** %

CHARACTERISTIC BEAMS
 Accelerated Ions E/A (MeV/u) Current (part μ A)
 Internal External
 (a) **P** **10-22** **700** **20**
 (b) **d** **12-24** **700** **20**
 (c) **He³⁺** **30-50** **15** **5**
 (d) **He⁴⁺** **24-48** **15** **5**
 Secondary Particles E (MeV) part/sec
 (a) **---** **---**
 (b) **---** **---**
 (c) **---** **---**

EXTRACTED BEAM PROPERTIES:
 For **10** μ A of **---** MeV/u **---** ions
 $\Delta E/E$ **0,1** % $\Delta\phi$ **2-3** nsec **---** °rf
 $\epsilon_n = \beta\gamma\epsilon$ **1,0,0** π mm mrad z **6,0** π mm mrad

FACILITIES FOR RESEARCH
 SHIELDED AREA: Fixed **200,0** m² Moveable **---** m²
 Target Stations: **6** No. Served At Same Time: **1**
MAGNETIC SPECTROMETERS: **1**
OTHER FACILITIES: **---**

REFERENCES/NOTES
 (a) **---**
 (b) **---**

PLAN VIEW OF FACILITY, COMMENTS