

ENTRY NO. CU27 Date  
Cyclotron Model CV 28, TCC Berkley  
Institution Institut für Medizinische Strahlenphysik  
Address Hufelandstr. 55, D-45122 Essen  
Tel 0201/723-4173 Telex  
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In Charge: Prof. Rassow Reported by:

#### HISTORY

MILESTONE DATES:  
Installation 1975 First Beam Sept. 1975  
DESIGN/CONSTRUCTION BY: TCC Berkley  
COST: Accelerator 0.9 x 10<sup>6</sup> \$ Facility 1.6 x 10<sup>6</sup> \$  
FUNDED BY: Land Nordrhein-Westfalen (University)

#### STATUS

STAFF: Operators 4 Technicians 3  
BUDGET: Machine Funded by  
TIME DISTRIBUTION: (e.g. basic research, isotope production, maintenance, etc.)  
(a) Isotope production 60 %  
(b) Neutron production 25 %  
(c) Maintenance 15 %  
(d) 5 %  
(e) %

#### CHARACTERISTIC BEAMS

| Accelerated Ions | E/A (MeV/u) | Internal | External |
|------------------|-------------|----------|----------|
| (a) Protons      | 2-24        | 300      | 85       |
| (b) Helium-4     | 6-28        | 100      | 50       |

1994  $\mu$ A-hours on target: 55.000

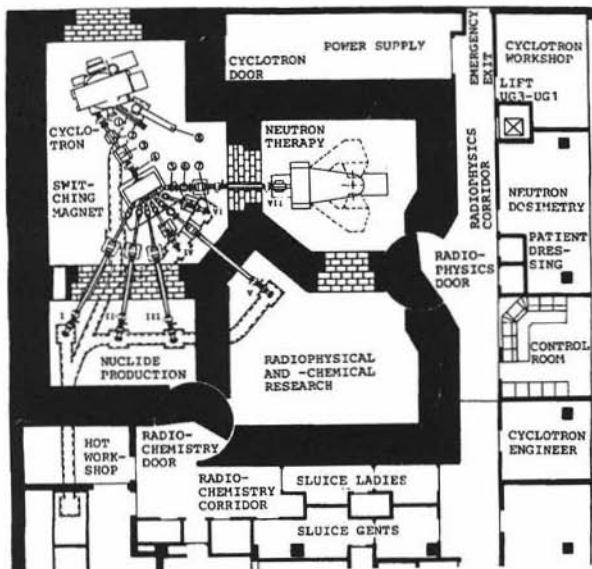
#### FACILITIES

SHIELDED AREA: Fixed: 138 m<sup>2</sup> Moveable m<sup>2</sup>  
Target Stations: 7 No. Served At Same Time: 1  
OTHER FACILITIES: isocentric neutron therapy facility

#### REFERENCES/NOTES

- (a) Rassow, J. et al. CIRCE-Cyclotron Isocentric Neutron  
(b) Therapy Facility. In: Third Symposium on Neutron  
Dosimetry, Munich 1977 EURATOM EUR 5848

#### PLAN VIEW OF FACILITY, COMMENTS



ENTRY NO. CU28 Date Oct. 10, 1995  
Cyclotron Model MC32NI  
Institution German Cancer Research Center (DKFZ)  
Address D-69120 Heidelberg  
Tel + 6221 422681 Telex 461 562 dkfz d  
Fax + 6221 422572 E-MAIL dkfz1/0000C0339824  
In Charge: Gerd Wolber, Ph.D Reported by: Gerd Wolber

#### HISTORY

MILESTONE DATES:  
Installation April-June 1991 First Beam June/July 1991  
DESIGN/CONSTRUCTION BY: SCANDITRONIX AB, Sweden  
COST: Accelerator 4.8 MDM Facility  
FUNDED BY: DKFZ Budget (90% Federal Government,  
10% State Govt.)

#### STATUS

STAFF: Operators Technicians 5  
BUDGET: Machine 150 KDM Funded by DKFZ Budget  
TIME DISTRIBUTION: (e.g. basic research, isotope production, maintenance, etc.)  
(a) radioisotope production for nuclear med./PET 70 %  
(b) basic research (radiation biology) 10 %  
(c) fast neutron dosimetry 10 %  
(d) maintenance 5 %  
(e) others (activations/irradiations for external users) 5 %

#### CHARACTERISTIC BEAMS

| Accelerated Ions   | E/A (MeV/u) | Internal | External |
|--------------------|-------------|----------|----------|
| (a) H <sup>-</sup> | 32          | >100     | \$ 80    |
| (b) D <sup>-</sup> | 8           | >100     | \$ 80    |

1994  $\mu$ A-hours on target: 11200

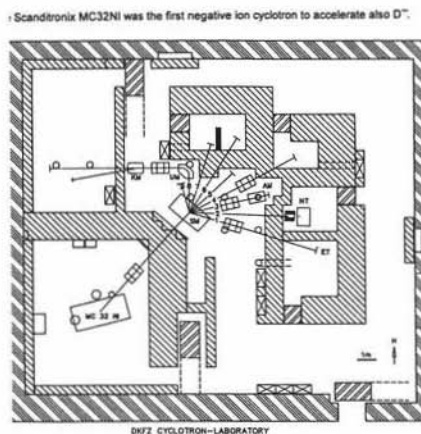
#### FACILITIES

SHIELDED AREA: Fixed: 23,65x20,35 m<sup>2</sup> Moveable m<sup>2</sup>  
Target Stations: 8 No. Served At Same Time: 1  
OTHER FACILITIES: Radiochemistry: Automated  
Radioisotope Processing/Labeling  
SPECT, PET (2x)

#### REFERENCES/NOTES

- (a) Sicherheitsbericht für das Zyklotron MC32NI  
(b) (DKFZ 1992, Internal Report)

#### PLAN VIEW OF FACILITY, COMMENTS



- Assignment of the targets:
- 1 Experimental Target (2-5 targets on changer)
  - 2 Fast neutron targets
  - 3 <sup>18</sup>O from <sup>14</sup>N (d,n)
  - 4 <sup>18</sup>F from <sup>20</sup>Ne (d,  $\alpha$ ) (two identical targets)
  - 5 <sup>11</sup>C from <sup>14</sup>N(p,  $\alpha$ )
  - 6 <sup>81</sup>Rb from <sup>82</sup>Kr(p, 2n) and <sup>78</sup>Br from <sup>79</sup>Kr(p,  $\alpha$ )
  - 7 <sup>18</sup>F from H<sub>2</sub><sup>18</sup>O(p, n) (two identical targets)
  - 8a activation of machine parts for wear measurements
  - 8b free for misc. experiments
  - 9 <sup>13</sup>N from H<sub>2</sub><sup>14</sup>O(p,  $\alpha$ )

DKFZ CYCLOTRON-LABORATORY