

Irradiation of materials in Cave HHD during the B-block on the 3-7th of August 2009

Participants: Vera Chetvertkova, Markus Krause, Andrei Plotnikov, Tim Seidl, Ivan Strasik, Marielena Tomut;

Coordinator: Edil Mustafin

Following materials:

1. Fiber optic cables (FAIR material irradiation campaign)
2. Activation targets (FAIR material irradiation campaign)
3. Organic plates made of G11 (FAIR material irradiation campaign)
4. Composite carbon targets (COLMAT collaboration)
5. Voltage breakers (on the request of the last Machine Advisory Committee), were organized into three different target assemblies shown in **Figs. 1-3**. All targets were irradiated with Ar⁺¹⁸ ions.

Target assembly #1 was irradiated in the night from the 3^d to 4th of August up to total fluence of about 2.7e+14 particles in beam spot of about 1x2 cm². The energy of the Ar beam was 500 MeV/u.

Problems: the trafo acquisition software did not work.

Target assembly #2 was irradiated in the night from the 5th to 6th of August up to total fluence of about 1.4e+14 particles in beam spot of larger than 3x3 cm². The energy of the Ar beam was 500 MeV/u.

Problems: two hours of the beam time was lost in attempts to focus the beam. After two hours it was decided to go for irradiation with absolutely unfocused beam (spot size larger than 3x3 cm²).

Target assembly #3 was irradiated in the night from the 6th to 7th of August up to total fluence of about 7.4e+13 particles in beam spot of about 1x2 cm². The energy of the Ar beam was 430 MeV/u.

Problems: after accessing the HHD (in order to adjust the targets) the SIS was blocked by the security system, two hours of beam time was lost in waiting for the security person-on-call to come and unblock the system.

Target assembly #3 was irradiated once more in the night from the 7th to 8th of August up to total fluence of about 2.7e+14 particles in beam spot of about 1x2 cm². The energy of the Ar beam was 430 MeV/u.

Problems: there was no problem from the SIS side.

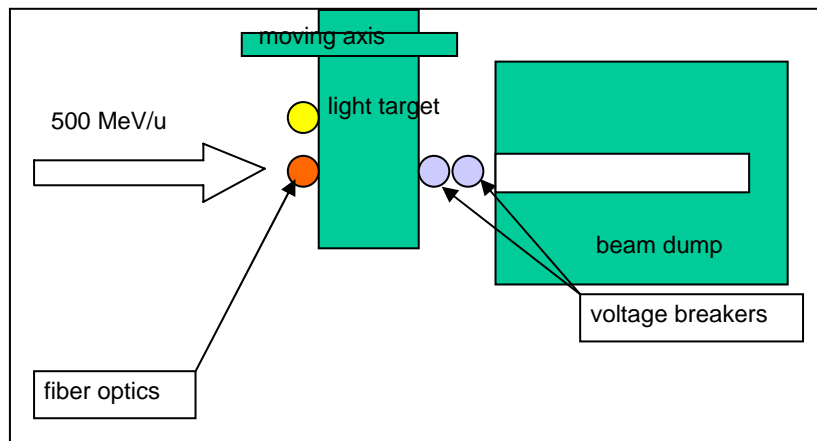


Fig.1: Target assembly #1

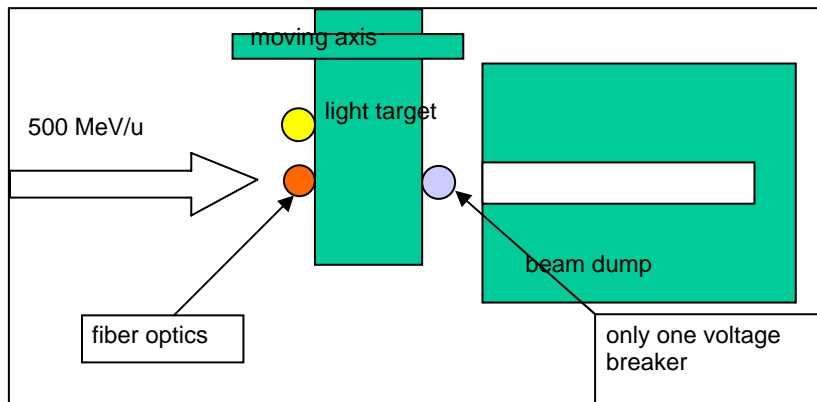


Fig.2: Target assembly #2

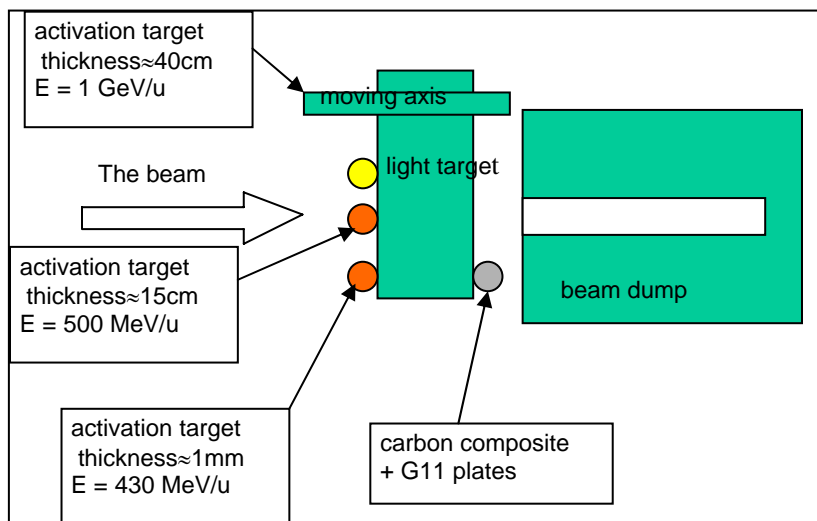


Fig.3: Target assembly #3