

DEAR management board of TANDEM

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Experiment Title            Nuclear Astrophysics Experimental Environment Site  
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Short presentation of the scientific project

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NUCLEAR ASTROPHYSICS MEASUREMENTS ARE DONE IN THE GAMOW PEAK. THE LAB  
CROSSSECTION IS USUALLY BIGGER THAN THE ONE FROM THE STELLAR ENVIRONMENT DUE TO  
THE ELECTRON SCREENING. CROSSSECTION CALCULATIONS DEPEND ON THE ACCURACY OF THE  
STOPPING POWER. BELOW THE BRAGG PEK, THERE ARE FEW MEASUREMENTS AND THEY DIFFER  
TOO MUCH FOR THE ASTROPHYSICS ACCURACY. WE WANT TO COMPARE DIFFERENT METHODS OF  
MEASUREMENTS AND SEE HOW RESULTS MAY BE AFFECTED BY THEM AND BY THE TARGET  
PREPARATION (SYSTEMATICS DONE FOR THE FIRST TIME IN THE WORLD). THESE  
MEASUREMENTS ARE DONE FOR THE FIRST TIME IN ROMANIA.

Beam time request(unit=8 hours) : 42  
Desired Period                    : -

Desired beam properties

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Type                            : p, a, 12C  
Energy(MeV)                    : 10  
Intensity(p/nA)                : 100  
Vacuum Requests                : 10<sup>-7</sup>

Special requirements for detectors, electronics, acquisition system  
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detection systems exist

buy new detectors

Minimal information needed for the radiological risk evaluation:

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a)Source activity               : 100000 Bq  
b)Use of open sources         :  
c)Estimate of the residual activity as a result of irradiation : 0  
d)Means of storage/transportation for irradiated targets         : no  
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