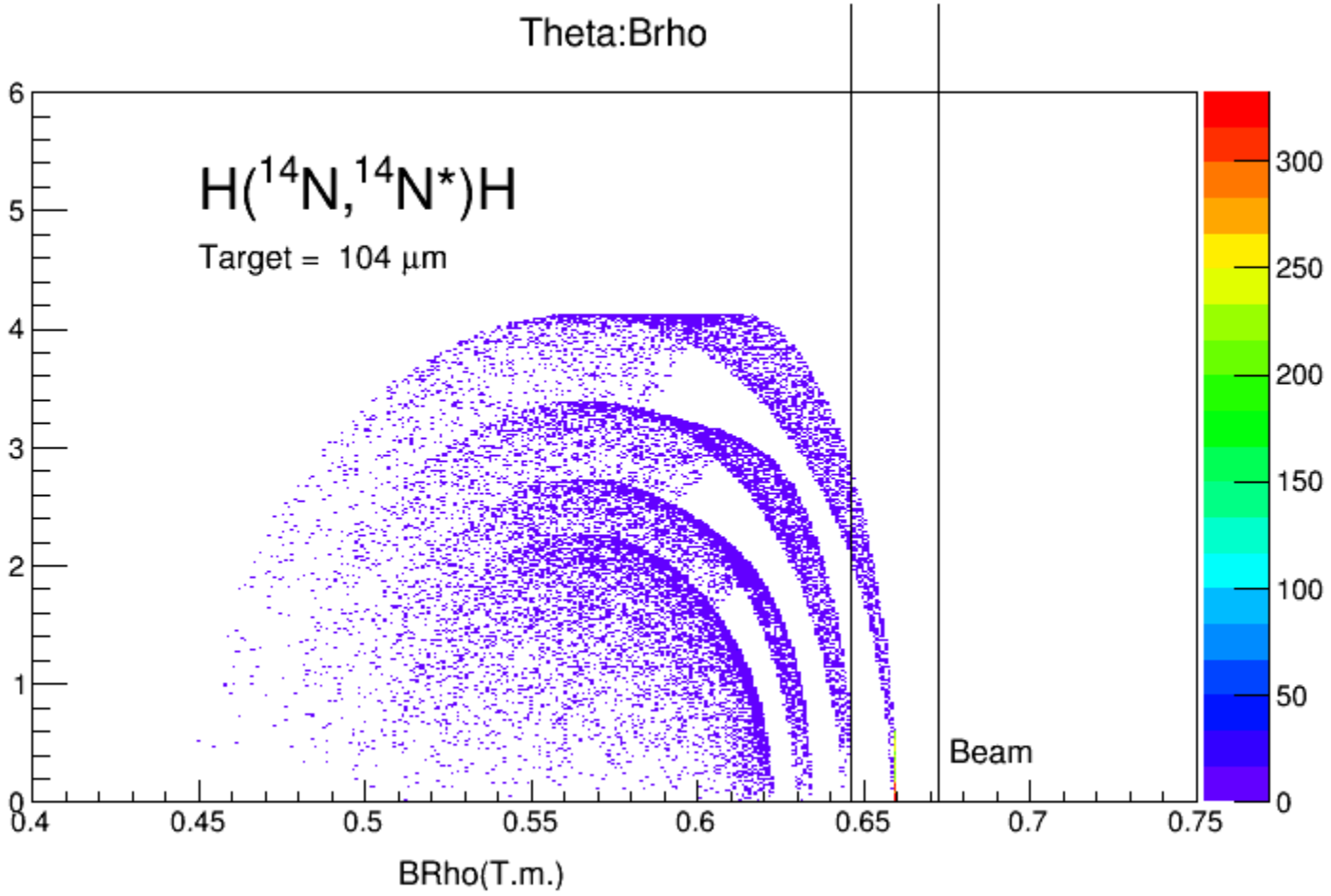
Beam 14N7+ E=7.6 MeV/u Brho=0.7954 Tm

After 1 CATS and 104 µm target E=5.2133 MeV/u Brho= 0.658 Tm



$^{14}_{7}N$

Levels and γ-ray branchings:

0, 1^+, stable, *[ABDEFKLMPQRSTUVWX]*, T=0, μ=+0.40376100 *6*, Q=+0.0193 *8*

2312.798 *11*, 0^+, 68 *3* fs, *[BKLMPQRTVWX]*, T=1

γ_0 ***2312.593*** *11* ($\dagger_\gamma$100)

3948.10 *20*, 1^+, 4.8 *18* fs, *[BDEKLMPQSTUVWX]*, T=0

γ_{2313} ***1635.20*** *20* ($\dagger_\gamma$100.0 *3*)

γ_0 ***3947.50*** *20* ($\dagger_\gamma$4.1 *2*) [M1+E2]: δ=+2.8 *3*

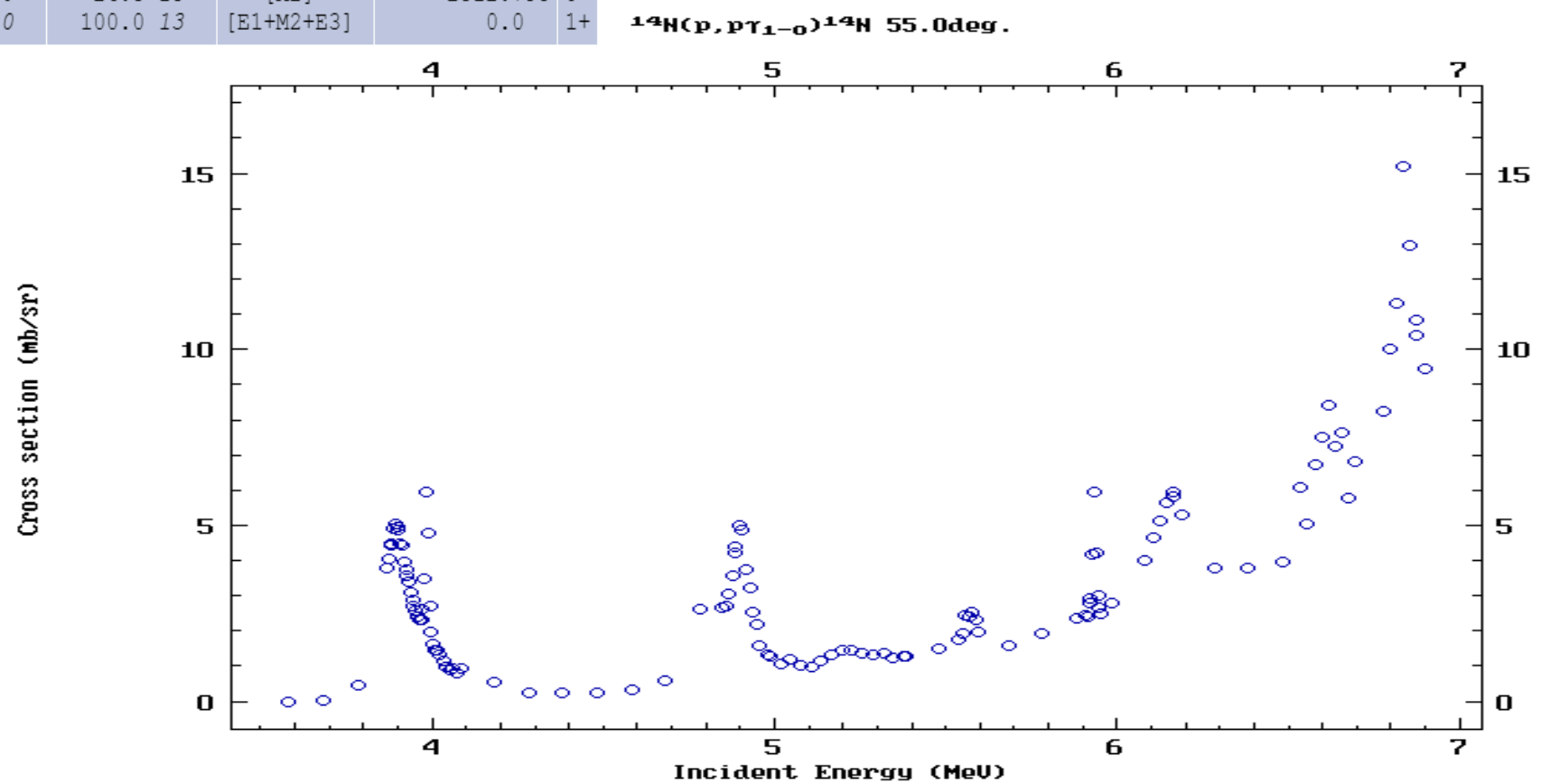
4915.1 *14*, 0^-, 5.3 *10* fs, *[DEKLPQSTUVWX]*, T=0

γ_{3948} ***967.0*** *14* ($\dagger_\gamma$<0.5)

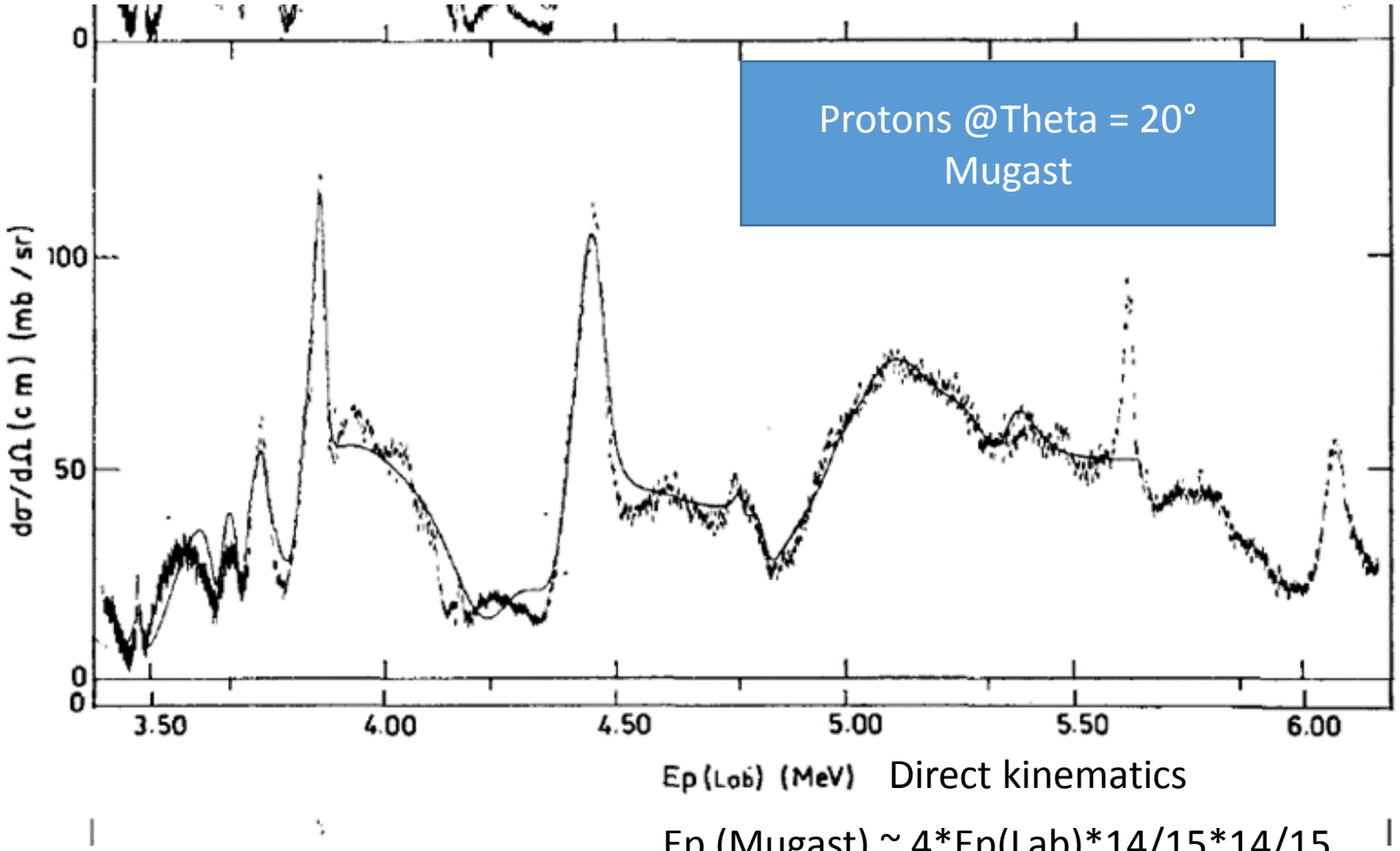
γ_{2313} ***2602.0*** *14* ($\dagger_\gamma$<1)

γ_0 ***4914.2*** *14* ($\dagger_\gamma$100 *3*)

Jπ	$T_{1/2}$	E_γ (keV)	I_γ	γ mult.	Final level	
1+	STABLE					
0+	68 fs *3*	2312.593 *11*	100	[M1]	0.0	1+
1+	4.8 fs *18*	1635.20 *20* 3947.50 *20*	100.0 *3* 4.1 *2*	[M1] [M1+E2]	2312.798 0.0	0+ 1+
0-	5.3 fs *10*	967.0 *14* 2602.0 *14* 4914.2 *14*	<0.5 <1 100 *3*	 [E1]	3948.10 2312.798 0.0	1+ 0+ 1+
2-	4.35 ps *5*	1157.74 *23* 2792.79 *10* 5104.89 *10*	0.9 *5* 24.3 *15* 100.0 *13*	[E1] [M2] [E1+M2+E3]	3948.10 2312.798 0.0	1+ 0+ 1+



$H(^{14}N,p)^{14}N$

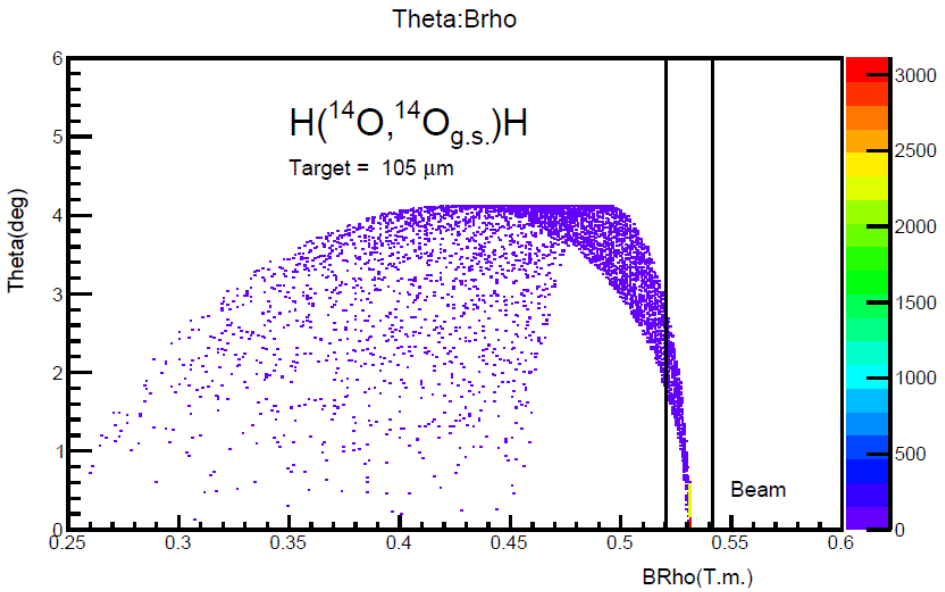


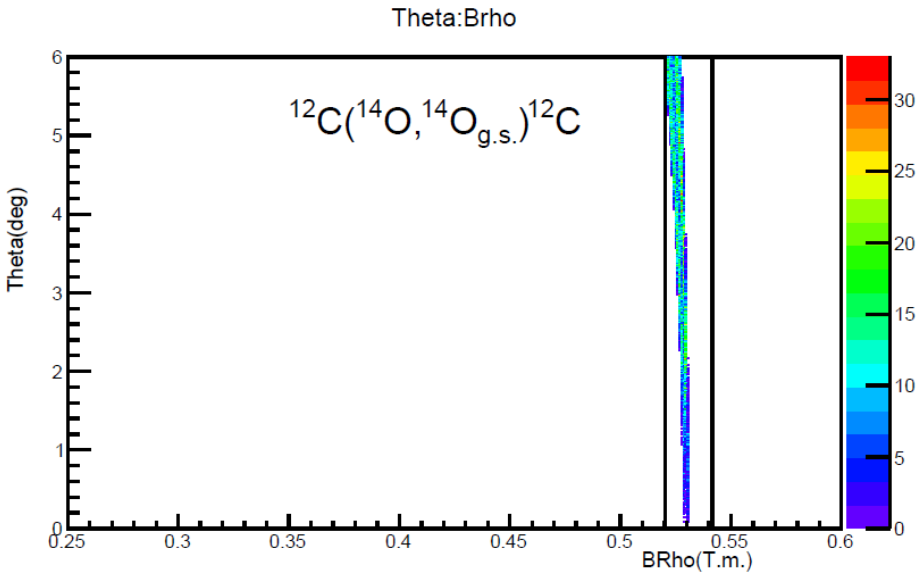
Direct kinematics

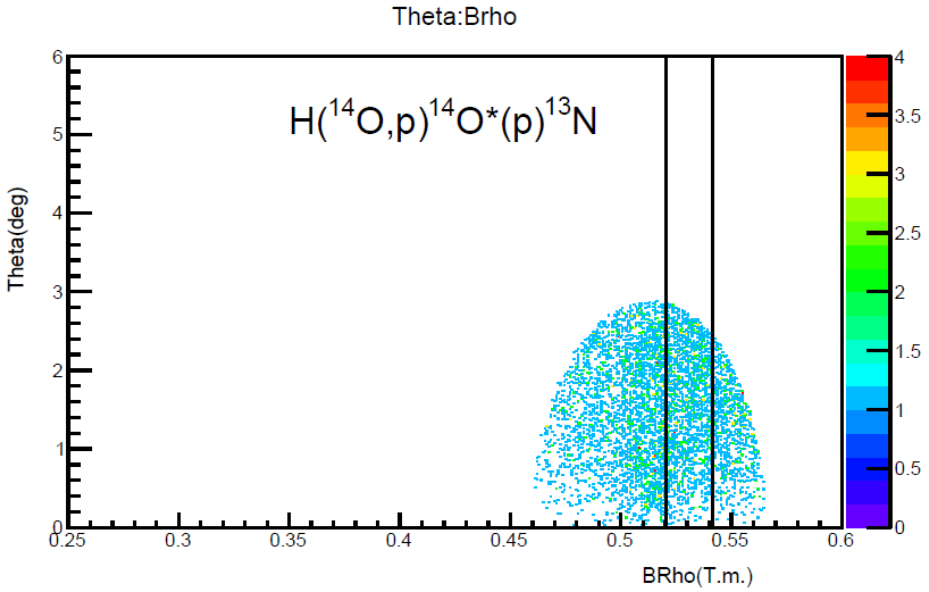
Ep (Mugast) ~ 4*Ep(Lab)*14/15*14/15

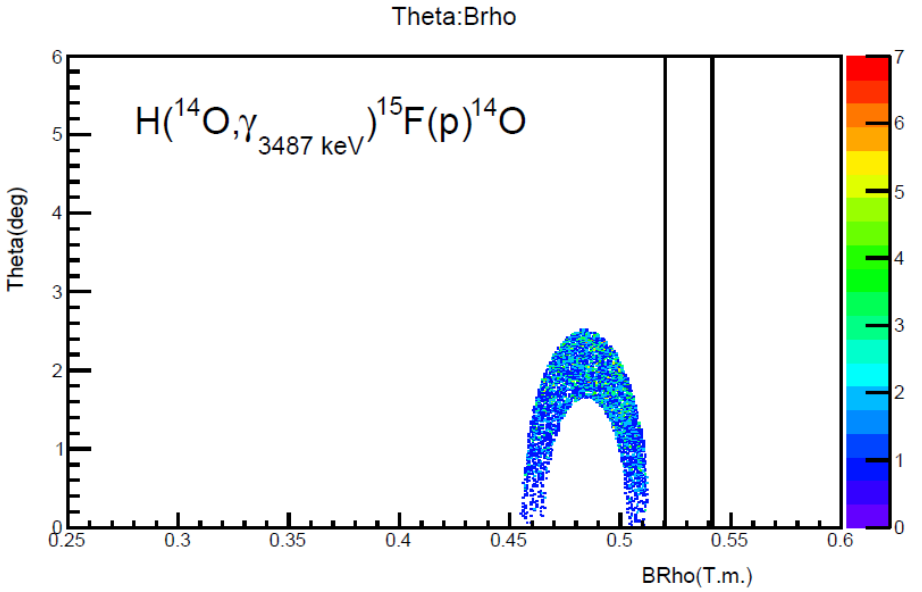
From reference
Orihara et al, NPA203,78(1973)

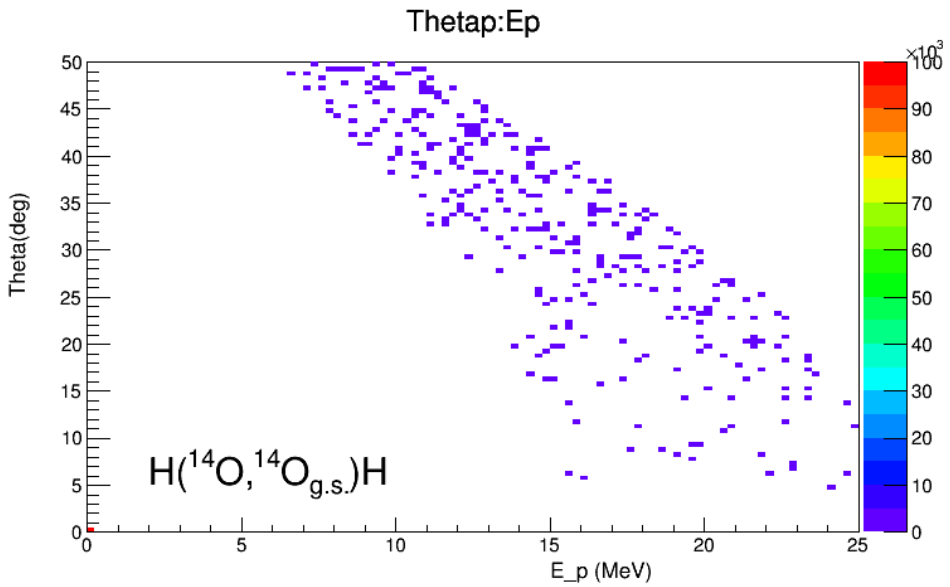
14O8+ after 104 µm target Brho (8+)= 0.528 Tm

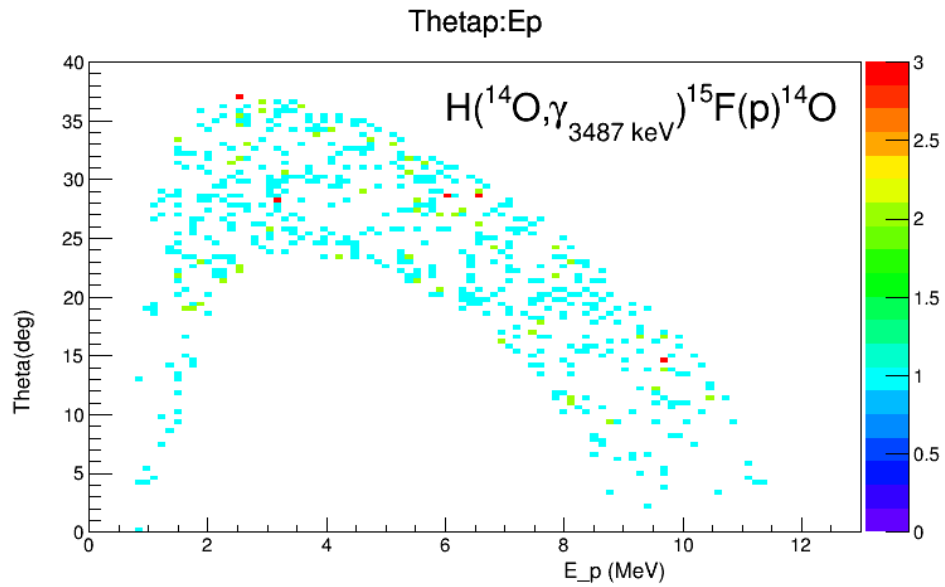


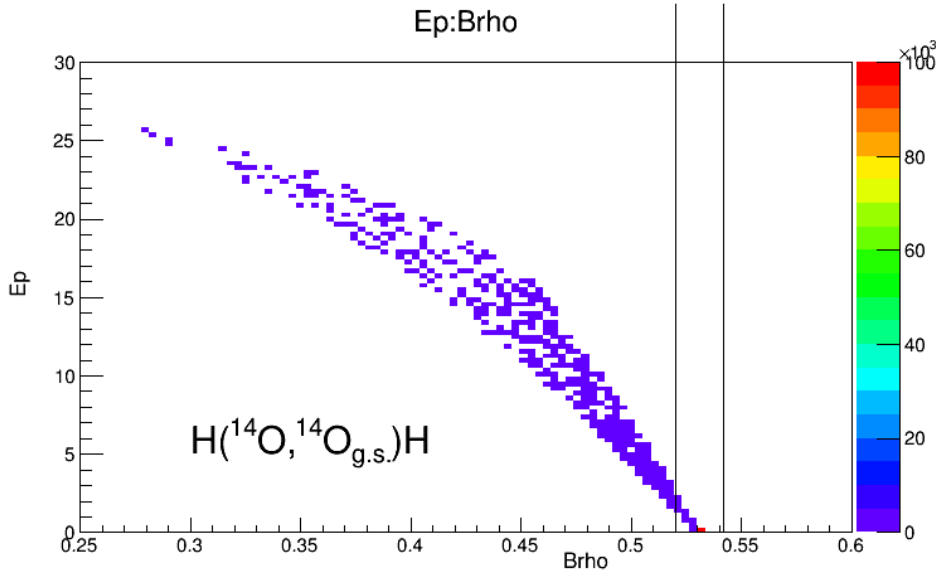


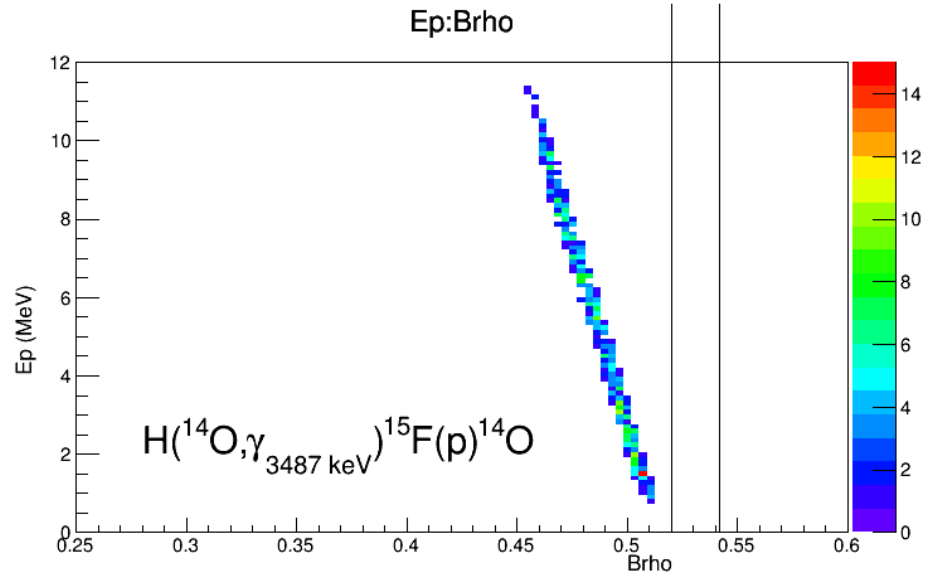




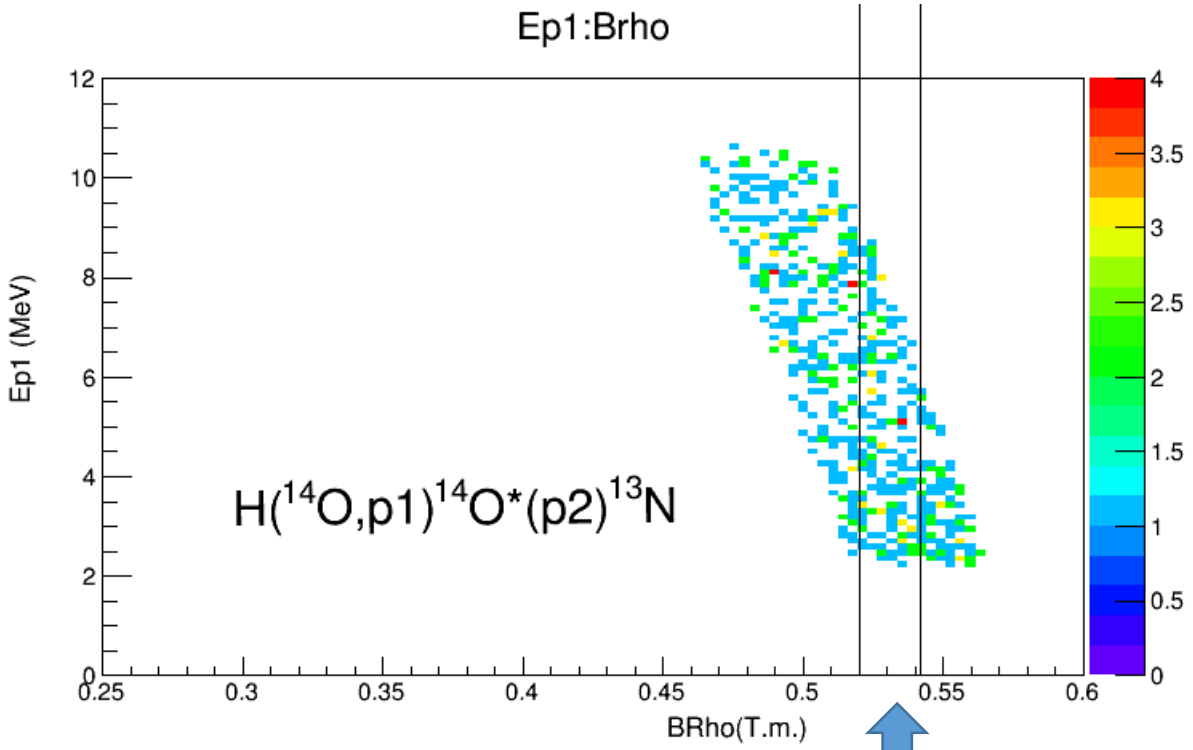

Thetap:Ep
Theta(deg)
E_p (MeV)
H(14O,14Og.s.)H
×10^3

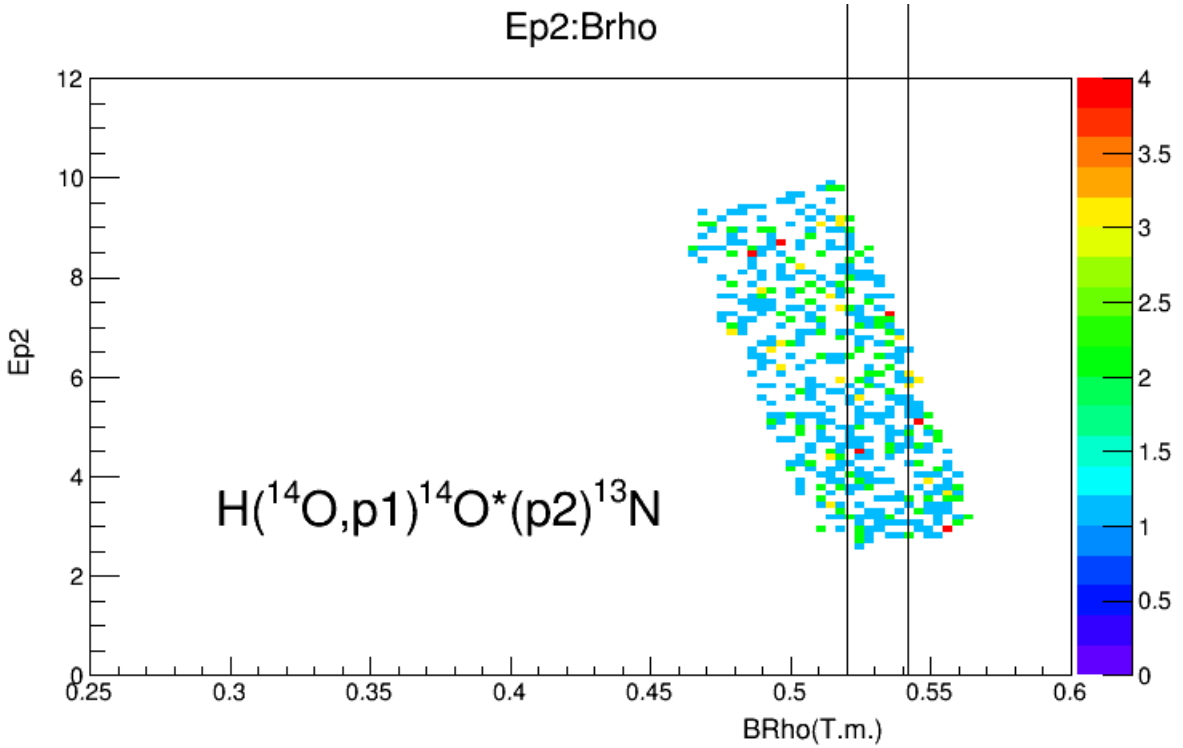

Thetap:Ep
Theta(deg)
E_p (MeV)
H(14O,γ3487 keV)15F(p)14O


Ep:Brho
Ep
Brho
H(14O,14Og.s.)H
×10^3


Ep:Brho
Ep (MeV)
Brho
H(14O,γ3487 keV)15F(p)14O

Cut of VAMOS with the finger





Brho of the beam

If we measure the Brho of 13N with VAMOS it is not possible to recover the energies of the protons 1 and 2, these events are mostly cut.