

## BNL-103882-2014-TECH AGS.SN1;BNL-103882-2014-IR

## Transmission through LEBT and Tank #1

L. Blumberg

March 1973

Collider Accelerator Department Brookhaven National Laboratory

## **U.S. Department of Energy**

USDOE Office of Science (SC)

Notice: This technical note has been authored by employees of Brookhaven Science Associates, LLC under Contract No.AT(30-1)-16 with the U.S. Department of Energy. The publisher by accepting the technical note for publication acknowledges that the United States Government retains a non-exclusive, paid-up, irrevocable, worldwide license to publish or reproduce the published form of this technical note, or allow others to do so, for United States Government purposes.

## DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

Blumberg, No.1 4 NAC STUDIES MARCH 315T 1973 The algest of the strike period was to improve the firm Konsmissin klraugh the for Energy seen trought system and contents 1. The amplifiers from the 200 milliones unit were required for this study so this unit was removed I am the orgidian area, and renovated priar to the study first. The computer programe whitten in FOCAL for the Anior PDP&L were retained and used for data analysis. Have The first & how period was taken up with initial equipment turn an and with would chosting of the date taking equipment and the associated poftwork. This was recessery since it Rok not been fassible to ming the emittance equipment with been a prior to thereticity fored. During the result 4 hours qualitative enothince data was taken using the manually apostod connected to VB#+ 1 emittance unit resors unity to determine the best operating conditions for the source mograt, anode fulser and estractor with the quaduufale plet set to theoretical settings abtained from Revolkasmans colculations. Where of the power formatters lad a longe effect an

 $\mathcal{P}_{\mathcal{A}} = \mathcal{P}_{\mathcal{A}} + \mathcal{P}_{\mathcal{A}} +$ provide the considered for a 150 mA beam convert at VB#1. To any promoter that afferra to affect the smithtance in any array und the entrater vallage which was finally bet to user confined with ~ BOKV used prior to this outsidy partial. The source formation such for the remainder of the staty farind arose as follows: -Goldaft Walton Brigh Waltage = 764KV. Education Vallerge = COKV Brunce galage and worked = 40 A Source discharge maynet = 1.3 A Wall The and a fulfering = 320 V Person curront in VB#1 = ISO MA. WebsFamodoupales Qlad Q3 = 255 A St anodrafica Q2 = 265A During the second & fair fariad the LEBT steering was ujusted to centre ele bran at VBH4 with the LEET afaiture ut. With the beam centered at VB#4 it was off center in VB#S (immediately in front of take # 1) suggesting that live la comonuisalignment in the later fast of the LEBT. line. Tanket I was then starned as and a 60m A beam current obtained 100 mp at the input to the Tak with any Burchert 2 and This was achieved by setting I FET glad infale to give a matched becaust the -Julto the Tenk ab calculated ad referted in Baylerne faiters could brode falser was trought its aperation after sumaing e gas pressure to sero. This aperation caused a movement of

" The position which received at a dead for time to file hern steering. The nest alight used to an ser far los lift of the learn by refeating the above stops bud were manace ful. They then recorded anothere usland anti 1344-1, 4, 5 ad 10 ter for the previously determined. sattingt with the mother input becan and with surely it has about how to prote of The next shift put the LEET afasters in and adjusted me qualitable triflet updacen of the apademe to infrare man stronging through the aparture. This did not Affect the beau faither at VB#4 ar 5 but the boursonissed manyl Tasked I was hinterwood as 58 mit of 10 the Decan want was abtimized for som A at the infant. Then burcher #1 was turned an and a please current of 60 mA ablained for 75 mA at the input to the Tarta. mittand were recorded at VB4, 5ad lotrev for LEBT facture in and one and two lumpirs are gised. The data & monorised in the following totale which gives aplotrer mittance of 6 cm wood un normalisch. A speciment set of als wastaken with the AESOPS unit for putting refuence purposes.

							:													-	
		•	. ,			•							•				•		,		
			- - "			رویونه می <sub>ار</sub> شاره م		•	, <i>14</i> ,				· ··•· •							•	•
				•		ىرى يەر يەر يەر يەر يەر يەر يەر		· •	÷.,				<u>.</u> .								r 
	یو ہے۔ در دیکھو در میں اور		5., 		,		•														: 
			•					 	· - '	•••• :										•	and An Mary San Para An
	·					างหมดอากจำระจะระ		 	<u>.</u>	•		· ·		·							
	بریسیورد در را در ۲۰ تدریس ۲۰ ۱۰		<b>,</b>	· -			· •····	- 1	1 <b>-</b> 1 - 1		•							•			en en A deta
					•			يو مرد معرف د ما	. tek				•					-			
								~									··· .			· .	
							0	S. Constraint	о Л	i geratur g <sup>ar</sup> tur	14 (Å	N.	3			Cont and		574	0 C C	Z	*
			900 B 4 10 100 100 100	1							 	•	,						•	_ ·	
			en een een een een een	and a state of the	1	314944 <b>2</b> 512 <b>29</b> 454 10' 101		م معین می این کر			ى <sub>ى</sub> يېرىكى ئەرىپىرىكى بىرىكى ئەرىكى ئىرىكى ئىرىكى	Streichlich Mailtean an a		-							
			S STATE BUT SHOULD STATE AND	8000-1 100 (Planty)		n v ru Konpercuniscia, haristan e dava d	्र - :******		ግግኛ <b>ይቅር ያገራ ነው።</b> 		و المعمومة بعدة المعمولة المراجع - المواة الماه والله ( الر ) هالا		هو ديني بيني بيني ميري بيني مي ميري ا		مى يەرىپى بىرى ت <sup>ىر بىر</sup> تېتىك دۇھىم ئىرىم بىرى تى <sup>ر بىر</sup> تېتىك دۇھىم	n. 4525.42 (n.∰7, f σ ≩ τ <sub>μ</sub> α, γ <sub>1</sub> γγ,		90 246 1232 (BUILDING COMPANY) AND		میں اور	
				-	····		**************************************		n an		elle win ennelige g	in Constant of Paparial Constant			- 56995798995,873 - 278 - 499 - 						
			17 17 17 17 17 17 17	No.		1412 - 1412 - 1414				بل من والعلم من الله با و ترقي	and a second		Particular and a second second	1 - Jun 2 House and							
2 2	o Z	Ž	60	7	26 041	123.6	23'0 03'5	6	2014	5	N S			O, 40	Ç Q	1	Ì			1	
o Z	0	ź	() ()	00 20 20 20 20	8 53		330005	1.02	4	45.0	ST.	13.9 0.56				0 0 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5	-9 -4	10,	N	1 6	er So
2	N S	0 2 7	ŝ	000 21	140	1 200	- 	Ę	7 V	0.53	Tr.	10.53	(ii	G.S.	~	50	e e		E W	•	
STATURS	Surves	Sterios	5 lonev	59.1 +13	E REVOIVER	NEN.	m	R.	7				a de antes de Latence de Latence de Latence de		-		6	tier T.		R.	E.
4	+	R	• <b>†</b> •	シャ	Z	É	A NUAD 1	N N	10Keles	4	< حت	2 S H	< 6	4 1	K B	1-1-	253	2	VE	I.	N.P
KH-2 CIDENER	BUNKH	1287	ENT	BEAM CURRENT	Chry	Lini	R	33	NC	VEN	P	10115	C+1	5		Ś	A.9.1 (			0%/0	10