



# RF Technology Development Group

## Mission

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- The mission of the Technical Division:
  - "The development, design, fabrication or procurement, and testing of accelerator and detector components."
- The mission of the RF Technology Development Group:
  - "The development, design, fabrication or procurement, and testing of RF cavities and structures for future accelerators."



# RF Technology Development Group Activities

- Present Activities
  - XBand and NLC Main Linac Beam Line Units\*
    - \* includes adjustable permanent magnets
  - Superconducting RF
- Group has four teams
  - XBand, SRF, Physics, RF Engineering
  - Finley: Carter, Terechkine, Solyak, Romanov
- Physics and RF Engineering support XBand and SRF



## People and Teams

These support these



- D. Finley / Group Leader
- N. Solyak / Physics
- G. Romanov / RF Engineering
  - T. Khabibouline
  - I. Gonin

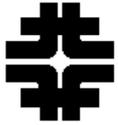
- H. Carter / XBand
  - T. Arkan
  - C. Boffo
  - E. Borrisov
  - Brian Smith
  - Future Technician
- I. Terechkine / SRF
  - Connections to others\*

\* Most XBand members support SRF



## TD Administrative Items

- Team Leader Meeting
  - 2nd and 4th Tuesday 9AM Club 157
  - Starting April 23, 2002
  
- Charging time correctly
- Performance Reviews
- Training determined by supervisor
  
- TD Signature Authority (soon to be completely true, I hope)
  - Yarba / Finley to \$20K; Kephart to budget limit
  - RAT (NLC): Carter and Arkan (if OK w/ Carter) to \$5K
  - MAT (NLC): Kashikhin to \$5K
  - GAT (NLC): Carter to \$5K
  - DRF: Terechkin to \$5K
  - TRF: Peterson / Lamm to \$5K



## Other Connections / Features

- Finley: also \$5K on all BD NLC codes
  - NLB (RF), NLD (magnets), NLx (dormant)
- Solyak: Run II TEL, 3<sup>rd</sup> harmonic
- Terechkine: No one directly reports to him
  - Good = fewer admin duties, Bad = no direct support
- Helen Edwards has determined srf program
  - I believe she intends to obligate DRF M&S in FY02 on a 3.9 GHz Powerstation at A0
- How to get non-TD connections to RF R&D?
  - Commit to \$50K / year for 805 MHz RF R&D
  - Collaborate with JLab and Argonne (at least)
  - Photoinjector III is “next big deal”



# FY02 Budget and Obligations thru March 31, 2002

## Fermilab LC R&D

\$4.7M Total Fermilab

\$2.5M NLC capped

\$2.2M SRF

~24.5 FTEs

\$2.26M M&S

Cost Cat	Obligation Budget	Obligation	
		Cost + Chg in Comm (K\$ Obligated)	Cost + Chg in Comm (% Obligated)
<b><i>BD + TD LC Capped</i></b>			
1YA Personnel Costs	1,367.0	628.2	46%
1YB Materials & Services	1,133.0	413.2	36%
Total LC:	2,500.0	1,041.4	42%
<b><i>BD + TD SRF</i></b>			
1YA Personnel Costs	1,087.0	399.2	37%
1YB Materials & Services	1,130.0	310.2	27%
Total SRF:	2,217.0	709.4	32%
<b><i>Total LC Capped + SRF</i></b>			
1YA Personnel Costs	2,454.0	1,027.4	42%
1YB Materials & Services	2,263.0	723.4	32%
Total LC + SRF:	4,717.0	1,750.9	37%



# FY02 Budget and Obligations thru March 31, 2002

## BD LC R&D

Code	Cost Cat	Obligation Budget	Obligation	
			Cost + Chg in Comm (K\$ Obligated)	Cost + Chg in Comm (% Obligated)
<b><i>BD-LC Total Capped</i></b>				
	1YA Personnel Costs	150.0	25.0	17%
	1YB Materials & Services	400.0	55.0	14%
Total BD LC:		550.0	80.0	15%
<b><i>BD-SRF Total</i></b>				
	1YA Personnel Costs	450.0	291.3	65%
	1YB Materials & Services	600.0	300.1	50%
Total BD SRF:		1,050.0	591.4	56%

## TD LC R&D

Code	Cost Cat	Obligation Budget	Obligation	
			Cost + Chg in Comm (K\$ Obligated)	Cost + Chg in Comm (% Obligated)
<b><i>TD - LC Total Capped</i></b>				
	1YA Personnel Costs	1,217.0	603.2	50%
	1YB Materials & Services	733.0	358.2	49%
Total TD LC:		1,950.0	961.4	49%
<b><i>TD-SRF Total</i></b>				
	1YA Personnel Costs	637.0	107.9	17%
	1YB Materials & Services	530.0	10.1	2%
Total TD SRF:		1,167.0	118.0	10%

Note: BD SRF is: \$0.9M for support of operation of FNPL Photoinjector at A0 plus \$0.15M for CKM cavities



# FY02 Budget and Obligations thru March 31, 2002

“zero” in 1Q and  
100% 1 FTE in Dec

RAT overcharged;  
See DRF

A couple of choices  
to obligate quickly

DRF Under reported  
by about 1.5FTE in  
Feb & Mar; 3.9 GHz  
in the wings

8 GeV srf under reported  
in Feb & Mar

These are Costs

Code	Cost Cat	Obligation Budget	Cost + Chg in Comm (K\$ Obligated)	Cost + Chg in Comm (% Obligated)	YTD	Oct	Nov	Dec	Jan	Feb	Mar
<b>TD-E&amp;F NLC Magnet R&amp;D-OP</b>											
4MAT	1YA Personnel Costs	35.0	13.2	38%	13.2	0.0	0.0	10.9	0.0	0.0	2.3
	1YB Materials & Service	30.0	5.1	17%	5.1	2.0	0.3	1.3	1.0	0.6	0.0
Total:		65.0	18.3	28%	18.3	2.0	0.3	12.1	1.0	0.6	2.3
<b>TD-E&amp;F NLC Structures R&amp;D-OP</b>											
4RAT	1YA Personnel Costs	1,182.0	590.1	50%	590.1	113.1	99.1	89.9	87.5	102.1	98.4
	1YB Materials & Service	633.0	353.1	56%	302.1	25.4	48.9	88.3	35.9	27.3	76.3
Total:		1,815.0	943.2	52%	892.2	138.5	148.0	178.2	123.4	129.4	174.7
<b>TD - E&amp;F NLC R&amp;D Equipment</b>											
6GAT	1YA Personnel Costs	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
	1YB Materials & Service	70.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total:		70.0	0.0	0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>TD-E&amp;F SCRF-OP</b>											
4DRF	1YA Personnel Costs	418.0	72.7	17%	72.7	0.0	0.0	0.0	14.9	28.4	29.4
	1YB Materials & Service	530.0	10.1	2%	10.1	0.0	0.0	0.0	0.3	4.5	5.3
Total:		948.0	82.8	9%	82.8	0.0	0.0	0.0	15.2	32.9	34.8
<b>TD-D&amp;T SCRF-OP</b>											
4TRF	1YA Personnel Costs	219.0	35.2	16%	35.2	0.0	0.0	2.3	4.2	14.3	14.4
	1YB Materials & Service	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total:		219.0	35.2	16%	35.2	0.0	0.0	2.3	4.2	14.3	14.4