MIPP Run Plan: Proposal

Source: MIPP_RunPlan-PDB-v4.xls
Rev. Date 11/5/04

Proposal Total "data points"	26
(includes 3.3 MINOS data points)	
Total Events (x 10E6)	78
MIPP DAQ Rate	60 Hz

Proposal "Data Points"

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Table 3, p. 35.

Sum of Data Points		
Elem	Program	Total
Be	pA	2.00
	Survey	1.00
C	MINOS	0.00
	Survey	1.00
Cu	Engineering	3.00
	pA	2.00
	Survey	1.00
H	Scaling	6.00
N	Atm. Neutrinos	3.00
O	Atm. Neutrinos	3.00
Pb	pA	2.00
	Survey	1.00
Various	Nuclear Scaling	1.00
Grand Total		26.00

This Run Plan

Sum of Data Points		
Target	Program	Total
Be	pA	2.20
	Survey	1.94
C	MINOS	1.80
	Survey	0.99
Cu	pA	1.33
	Survey	1.33
H	Engineering	1.00
	Scaling	7.00
N	Atm. Neutrinos	1.00
NuMI	MINOS	1.54
Pb	pA	2.20
	Survey	2.00
U	Survey	0.67
D	Scaling	1.00
Grand Total		26.00

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Table 3, p. 35.

Sum of Data Points	
Program	Total
Atm. Neutrinos	6.00
Engineering	3.00
pA	6.00
Scaling	6.00
Survey	4.00
Nuclear Scaling	1.00
Grand Total	26.00

This Run Plan

Sum of Data Points	
Program	Total
Atm. Neutrinos	1.00
Engineering	1.00
MINOS	3.34
pA	5.73
Scaling	8.00
Survey	6.93
Grand Total	26.00

Events in Millions

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Table 3, p. 35.

M Events		
Elem	Program	Total
Be	pA	6.00
	Survey	3.00
C	MINOS	0.00
	Survey	3.00
Cu	Engineering	9.00
	pA	6.00
	Survey	3.00
H	Scaling	18.00
N	Atm. Neutrino	9.00
O	Atm. Neutrino	9.00
Pb	pA	6.00
	Survey	3.00
Various	Nuclear Scalin	3.00
Grand Total		78.00

This Run Plan

Sum of Mevents		
Target	Program	Total
Be	pA	6.60
	Survey	5.81
C	MINOS	5.40
	Survey	2.98
Cu	pA	4.00
	Survey	4.00
H	Engineering	3.00
	Scaling	21.00
N	Atm. Neutrinos	3.00
NuMI	MINOS	4.61
Pb	pA	6.60
	Survey	6.00
U	Survey	2.00
D	Scaling	3.00
Grand Total		78.00

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Table 3, p. 35.

Sum of Data Points	
Program	Total
Atm. Neutrino	18.00
Engineering	9.00
pA	18.00
Scaling	18.00
Survey	12.00
Nuclear Scalin	3.00
Grand Total	78.00

This Run Plan

Sum of Mevents	
Program	Total
Atm. Neutrinos	3.00
Engineering	3.00
MINOS	10.01
pA	17.20
Scaling	24.00
Survey	20.79
Grand Total	78.00

MIPP Run Plan: Summary

Energy and Element Distribution

Sum of Mevents		E											
Z	Target	5	13.3	15	20	30	40	45	50	60	80	120	Grand Total
1	H	4.50		3.50		3.50		4.50		3.50	4.50		24.00
1.2	D	1.00	0.50	0.50		1.00							3.00
4	Be	1.00	1.00			1.00			1.81		1.00	6.60	12.41
6	C	1.00	1.00		1.57		1.66			1.57		1.58	8.38
	NuMI											4.61	4.61
7	N	1.00	1.00			1.00							3.00
29	Cu					1.00			2.00		1.00	4.00	8.00
82	Pb	1.00	1.00			1.00			2.00		1.00	6.60	12.60
92	U								2.00				2.00
Grand Total		9.50	4.50	4.00	1.57	8.50	1.66	4.50	7.81	5.07	7.50	23.39	78.00

Sum of Mevents		E											
Target	Note	5	13.3	15	20	30	40	45	50	60	80	120	Grand Total
Be		1.00	1.00			1.00			1.81		1.00		5.81
	p only											6.00	6.00
	p only, 2x target											0.60	0.60
Be Total		1.00	1.00			1.00			1.81		1.00	6.60	12.41
C		1.00											1.00
	p only		1.00		0.91		1.00			0.91		1.58	5.40
	pi,K only				0.66		0.66			0.66			1.98
C Total		1.00	1.00		1.57		1.66			1.57		1.58	8.38
Cu						1.00			2.00		1.00		4.00
	p only											4.00	4.00
Cu Total						1.00			2.00		1.00	4.00	8.00
H		4.50		3.50		3.50		4.50		3.50	4.50		24.00
H Total		4.50		3.50		3.50		4.50		3.50	4.50		24.00
N		1.00	1.00			1.00							3.00
N Total		1.00	1.00			1.00							3.00
NuMI	p only											4.61	4.61
NuMI Total												4.61	4.61
Pb		1.00	1.00			1.00			2.00		1.00		6.00
	p only											6.00	6.00
	p only, 2x target											0.60	0.60
Pb Total		1.00	1.00			1.00			2.00		1.00	6.60	12.60
U									2.00				2.00
U Total									2.00				2.00
D		1.00	0.50	0.50		1.00							3.00
D Total		1.00	0.50	0.50		1.00							3.00
Grand Total		9.50	4.50	4.00	1.57	8.50	1.66	4.50	7.81	5.07	7.50	23.39	78.00

MIPP Run Plan: Priority

Priority	**1**	**2**	**3**	**Total**
M Spill Seconds	0.2	0.3	0.8	1.3
Million Events	12.0	18.0	48.0	78.0
Fraction	0.154	0.231	0.615	1
Ratio	1.0	1.5	4.0	6.5

Run Priority

Sum of Mevents	Priority			
Program	1	2	3	Grand Total
Atm. Neutrinos		1.50	1.50	3.00
Engineering	3.00			3.00
MINOS	1.52	2.31	6.18	10.01
pA	2.00	4.00	11.20	17.20
Scaling	2.40	5.10	16.50	24.00
Survey	3.00	5.00	12.79	20.79
Grand Total	11.92	17.91	48.17	78.00
1E5 Spill-Seconds	1.99	2.99	8.03	

Balance	0.08	0.09	-0.17	0.00

MIPP Run Plan: Programs

Program	MINOS

Sum of Mevents				
Priority	Target	E	Note	Total
1	C	13.3	p only	0.38
		40	p only	0.38
		120	p only	0.38
	NuMI	120	p only	0.38
1 Total				1.52
2	C	20	p only	0.29
		60	p only	0.29
		120	p only	0.58
	NuMI	120	p only	1.15
2 Total				2.31
3	C	13.3	p only	0.62
		20	p only	0.62
		40	p only	0.62
		60	p only	0.62
		120	p only	0.62
	NuMI	120	p only	3.08
3 Total				6.18
Grand Total				10.01

Program	Scaling

Sum of Mevents				
Priority	Target	E	Note	Total
1	H	15		0.80
		45		0.80
		80		0.80
1 Total				2.40
2	H	5		1.00
		15		0.20
		30		1.00
		45		0.20
		60		1.00
		80		0.20
	D	5		0.50
		15		0.50
		30		0.50
2 Total				5.10
3	H	5		2.50
		15		2.50
		30		2.50
		45		2.50
		60		2.50
		80		2.50
	D	5		0.50
		13.3		0.50
		30		0.50
3 Total				16.50
Grand Total				24.00

Program	pA

Sum of Mevents				
Priority	Target	E	Note	Total
1	Be	120	p only	1.00
	Pb	120	p only	1.00
1 Total				2.00
2	Be	120	p only	2.00
	Pb	120	p only	2.00
2 Total				4.00
3	Be	120	p only	3.00
			p only, 2x target	0.60
	Cu	120	p only	4.00
	Pb	120	p only	3.00
			p only, 2x target	0.60
3 Total				11.20
Grand Total				17.20

Program	Survey

Sum of Mevents				
Priority	Target	E	Note	Total
1	Be	50		0.50
	Pb	30		0.50
		50		1.00
	U	50		1.00
1 Total				3.00
2	Be	30		1.00
		50		0.50
	Pb	30		0.50
		50		1.00
		80		1.00
	U	50		1.00
2 Total				5.00
3	Be	5		1.00
		13		1.00
		50		0.81
		80		1.00
	C	5		1.00
		20	pi,K only	0.66
		40	pi,K only	0.66
		60	pi,K only	0.66
	Cu	30		1.00
		50		2.00
		80		1.00
	Pb	5		1.00
		13		1.00
3 Total				12.79
Grand Total				20.79

Program	Atm. Neutrinos

Sum of Mevents				
Priority	Target	E	Note	Total
2	N	5		0.50
		13.3		0.50
		30		0.50
2 Total				1.50
3	N	5		0.50
		13.3		0.50
		30		0.50
3 Total				1.50
Grand Total				3.00

MIPP Run Plan: Operations

Sum of Mevents			E											
Priority	Target	Note	5	13.3	15	20	30	40	45	50	60	80	120	Grand Total
1	Be	p only											1.00	1.00
										0.50				0.50
	C	p only		0.38				0.38					0.38	1.14
	H		1.00		0.80				1.80			1.80		5.40
	NuMI	p only											0.38	0.38
	Pb	p only											1.00	1.00
							0.50			1.00				1.50
	U									1.00				1.00
1 Total			1.00	0.38	0.80		0.50	0.38	1.80	2.50		1.80	2.76	11.92
2	Be	p only											2.00	2.00
							1.00			0.50				1.50
	C	p only				0.29					0.29		0.58	1.16
	H		1.00		0.20		1.00		0.20		1.00	0.20		3.60
	N		0.50	0.50			0.50							1.50
	NuMI	p only											1.15	1.15
	Pb	p only											2.00	2.00
							0.50			1.00		1.00		2.50
	U									1.00				1.00
	D		0.50		0.50		0.50							1.50
2 Total			2.00	0.50	0.70	0.29	3.50		0.20	2.50	1.29	1.20	5.73	17.91
3	Be	p only											3.00	3.00
		p only, 2x target											0.60	0.60
			1.00	1.00						0.81		1.00		3.81
	C	p only		0.62		0.62		0.62			0.62		0.62	3.10
			1.00											1.00
		pi,K only				0.66		0.66			0.66			1.98
	Cu	p only											4.00	4.00
							1.00			2.00		1.00		4.00
	H		2.50		2.50		2.50		2.50		2.50	2.50		15.00
	N		0.50	0.50			0.50							1.50
	NuMI	p only											3.08	3.08
	Pb	p only											3.00	3.00
		p only, 2x target											0.60	0.60
			1.00	1.00										2.00
	D		0.50	0.50			0.50							1.50
3 Total			6.50	3.62	2.50	1.28	4.50	1.28	2.50	2.81	3.78	4.50	14.90	48.17
Grand Total			9.50	4.50	4.00	1.57	8.50	1.66	4.50	7.81	5.07	7.50	23.39	78.00

Priority	Program	Z	Target	E	Sign	Mevents	Data Points	Spill-Seconds	Note
2	Atm. Neutrino	7	N	5.0	-1	0.25	0.08	4167	
2	Atm. Neutrino	7	N	5.0	+1	0.25	0.08	4167	
2	Atm. Neutrino	7	N	13.3	-1	0.25	0.08	4167	
2	Atm. Neutrino	7	N	13.3	+1	0.25	0.08	4167	
2	Atm. Neutrino	7	N	30.0	-1	0.25	0.08	4167	
2	Atm. Neutrino	7	N	30.0	+1	0.25	0.08	4167	
3	Atm. Neutrino	7	N	5.0	-1	0.25	0.08	4167	
3	Atm. Neutrino	7	N	5.0	+1	0.25	0.08	4167	
3	Atm. Neutrino	7	N	13.3	-1	0.25	0.08	4167	
3	Atm. Neutrino	7	N	13.3	+1	0.25	0.08	4167	
3	Atm. Neutrino	7	N	30.0	-1	0.25	0.08	4167	
3	Atm. Neutrino	7	N	30.0	+1	0.25	0.08	4167	
1	Engineering	1	H	5.0	-1	0.5	0.17	8333	
1	Engineering	1	H	5.0	+1	0.5	0.17	8333	
1	Engineering	1	H	45.0	-1	0.5	0.17	8333	
1	Engineering	1	H	45.0	+1	0.5	0.17	8333	
1	Engineering	1	H	80.0	-1	0.5	0.17	8333	
1	Engineering	1	H	80.0	+1	0.5	0.17	8333	
1	MINOS	6	C	13.3	+1	0.38	0.13	6333	p only
1	MINOS	6	C	40.0	+1	0.38	0.13	6333	p only
1	MINOS	6	C	120.0	+1	0.38	0.13	6333	p only
1	MINOS	6	NuMI	120.0	+1	0.38	0.13	6333	p only
2	MINOS	6	C	20.0	+1	0.29	0.10	4833	p only
2	MINOS	6	C	60.0	+1	0.29	0.10	4833	p only
2	MINOS	6	C	120.0	+1	0.58	0.19	9667	p only
2	MINOS	6	NuMI	120.0	+1	1.15	0.38	19167	p only
3	MINOS	6	C	13.3	+1	0.62	0.21	10333	p only
3	MINOS	6	C	20.0	+1	0.62	0.21	10333	p only
3	MINOS	6	C	40.0	+1	0.62	0.21	10333	p only
3	MINOS	6	C	60.0	+1	0.62	0.21	10333	p only
3	MINOS	6	C	120.0	+1	0.62	0.21	10333	p only
3	MINOS	6	NuMI	120.0	+1	3.08	1.03	51333	p only
1	pA	4	Be	120.0	+1	1	0.33	16667	p only
1	pA	82	Pb	120.0	+1	1	0.33	16667	p only
2	pA	4	Be	120.0	+1	2	0.67	33333	p only
2	pA	82	Pb	120.0	+1	2	0.67	33333	p only
3	pA	4	Be	120.0	+1	3	1.00	50000	p only
3	pA	4	Be	120.0	+1	0.6	0.20	10000	p only, 2x targ
3	pA	29	Cu	120.0	+1	4	1.33	66667	p only
3	pA	82	Pb	120.0	+1	3	1.00	50000	p only
3	pA	82	Pb	120.0	+1	0.6	0.20	10000	p only, 2x targ
1	Scaling	1	H	15.0	-1	0.4	0.13	6667	
1	Scaling	1	H	15.0	+1	0.4	0.13	6667	
1	Scaling	1	H	45.0	-1	0.4	0.13	6667	
1	Scaling	1	H	45.0	+1	0.4	0.13	6667	
1	Scaling	1	H	80.0	-1	0.4	0.13	6667	
1	Scaling	1	H	80.0	+1	0.4	0.13	6667	
2	Scaling	1	H	5.0	-1	0.5	0.17	8333	
2	Scaling	1	H	5.0	+1	0.5	0.17	8333	
2	Scaling	1	H	15.0	-1	0.1	0.03	1667	
2	Scaling	1	H	15.0	+1	0.1	0.03	1667	
2	Scaling	1	H	30.0	-1	0.5	0.17	8333	
2	Scaling	1	H	30.0	+1	0.5	0.17	8333	
2	Scaling	1	H	45.0	-1	0.1	0.03	1667	
2	Scaling	1	H	45.0	+1	0.1	0.03	1667	
2	Scaling	1	H	60.0	-1	0.5	0.17	8333	
2	Scaling	1	H	60.0	+1	0.5	0.17	8333	
2	Scaling	1	H	80.0	-1	0.1	0.03	1667	
2	Scaling	1	H	80.0	+1	0.1	0.03	1667	
2	Scaling	1.2	D	5.0	-1	0.25	0.08	4167	
2	Scaling	1.2	D	5.0	+1	0.25	0.08	4167	
2	Scaling	1.2	D	15.0	-1	0.25	0.08	4167	
2	Scaling	1.2	D	15.0	+1	0.25	0.08	4167	
2	Scaling	1.2	D	30.0	-1	0.25	0.08	4167	
2	Scaling	1.2	D	30.0	+1	0.25	0.08	4167	
3	Scaling	1	H	5.0	-1	1.25	0.42	20833	
3	Scaling	1	H	5.0	+1	1.25	0.42	20833	
3	Scaling	1	H	15.0	-1	1.25	0.42	20833	
3	Scaling	1	H	15.0	+1	1.25	0.42	20833	
3	Scaling	1	H	30.0	-1	1.25	0.42	20833	
3	Scaling	1	H	30.0	+1	1.25	0.42	20833	
3	Scaling	1	H	45.0	-1	1.25	0.42	20833	
3	Scaling	1	H	45.0	+1	1.25	0.42	20833	

Priority	Program	Z	Target	E	Sign	Mevents	Data Points	Spill-Seconds	Note
3	Scaling	1	H	60.0	-1	1.25	0.42	20833	
3	Scaling	1	H	60.0	+1	1.25	0.42	20833	
3	Scaling	1	H	80.0	-1	1.25	0.42	20833	
3	Scaling	1	H	80.0	+1	1.25	0.42	20833	
3	Scaling	1.2	D	5.0	-1	0.25	0.08	4167	
3	Scaling	1.2	D	5.0	+1	0.25	0.08	4167	
3	Scaling	1.2	D	13.3	-1	0.25	0.08	4167	
3	Scaling	1.2	D	13.3	+1	0.25	0.08	4167	
3	Scaling	1.2	D	30.0	-1	0.25	0.08	4167	
3	Scaling	1.2	D	30.0	+1	0.25	0.08	4167	
1	Survey	4	Be	50.0	-1	0.25	0.08	4167	
1	Survey	4	Be	50.0	+1	0.25	0.08	4167	
1	Survey	82	Pb	30.0	-1	0.25	0.08	4167	
1	Survey	82	Pb	30.0	+1	0.25	0.08	4167	
1	Survey	82	Pb	50.0	-1	0.5	0.17	8333	
1	Survey	82	Pb	50.0	+1	0.5	0.17	8333	
1	Survey	92	U	50.0	-1	0.5	0.17	8333	
1	Survey	92	U	50.0	+1	0.5	0.17	8333	
2	Survey	4	Be	30.0	-1	0.5	0.17	8333	
2	Survey	4	Be	30.0	+1	0.5	0.17	8333	
2	Survey	4	Be	50.0	-1	0.25	0.08	4167	
2	Survey	4	Be	50.0	+1	0.25	0.08	4167	
2	Survey	82	Pb	30.0	-1	0.5	0.17	8333	
2	Survey	82	Pb	50.0	-1	0.5	0.17	8333	
2	Survey	82	Pb	50.0	+1	0.5	0.17	8333	
2	Survey	82	Pb	80.0	-1	0.5	0.17	8333	
2	Survey	82	Pb	80.0	+1	0.5	0.17	8333	
2	Survey	92	U	50.0	-1	0.5	0.17	8333	
2	Survey	92	U	50.0	+1	0.5	0.17	8333	
3	Survey	4	Be	5.0	-1	0.5	0.17	8333	
3	Survey	4	Be	5.0	+1	0.5	0.17	8333	
3	Survey	4	Be	13.3	-1	0.5	0.17	8333	
3	Survey	4	Be	13.3	+1	0.5	0.17	8333	
3	Survey	4	Be	50.0	-1	0.405	0.14	6750	
3	Survey	4	Be	50.0	+1	0.405	0.14	6750	
3	Survey	4	Be	80.0	-1	0.5	0.17	8333	
3	Survey	4	Be	80.0	+1	0.5	0.17	8333	
3	Survey	6	C	5.0	-1	0.5	0.17	8333	
3	Survey	6	C	5.0	+1	0.5	0.17	8333	
3	Survey	6	C	20.0	-1	0.33	0.11	5500	pi,K only
3	Survey	6	C	20.0	+1	0.33	0.11	5500	pi,K only
3	Survey	6	C	40.0	-1	0.33	0.11	5500	pi,K only
3	Survey	6	C	40.0	+1	0.33	0.11	5500	pi,K only
3	Survey	6	C	60.0	-1	0.33	0.11	5500	pi,K only
3	Survey	6	C	60.0	+1	0.33	0.11	5500	pi,K only
3	Survey	29	Cu	30.0	-1	0.5	0.17	8333	
3	Survey	29	Cu	30.0	+1	0.5	0.17	8333	
3	Survey	29	Cu	50.0	-1	1	0.33	16667	
3	Survey	29	Cu	50.0	+1	1	0.33	16667	
3	Survey	29	Cu	80.0	-1	0.5	0.17	8333	
3	Survey	29	Cu	80.0	+1	0.5	0.17	8333	
3	Survey	82	Pb	5.0	-1	0.5	0.17	8333	
3	Survey	82	Pb	5.0	+1	0.5	0.17	8333	
3	Survey	82	Pb	13.3	-1	0.5	0.17	8333	
3	Survey	82	Pb	13.3	+1	0.5	0.17	8333	