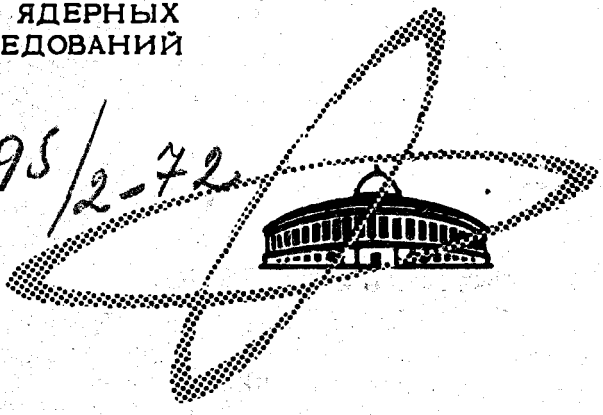
ОБЪЕДИНЕННЫЙ
ИНСТИТУТ
ЯДЕРНЫХ
ИССЛЕДОВАНИЙ

Дубна



E1 - 6613

G.G.Beznogikh, A.Bujak, L.F.Kirillova,
B.A.Morozov, V.A.Nikitin, P.V.Nomokonov,
A.Sandacz, M.G.Shafranova, V.A.Sviridov,
Truong Bien, V.I.Zayachki, N.K.Zhidkov, L.S.Zolin

ЛАБОРАТОРИЯ ВЫСОКИХ ЭНЕРГИЙ

DIFFERENTIAL CROSS SECTIONS OF THE ELASTIC p-p SCATTERING IN THE ENERGY RANGE OF 8-70 GEV

1972

E1 - 6613

G.G.Beznogikh, A.Bujak, L.F.Kirillova,
B.A.Morozov, V.A.Nikitin, P.V.Nomokonov,
A.Sandacz, M.G.Shafranova, V.A.Sviridov,
Truong Bien, V.I.Zayachki, N.K.Zhidkov, L.S.Zolin

DIFFERENTIAL CROSS SECTIONS OF THE ELASTIC p-p SCATTERING IN THE ENERGY RANGE OF 8-70 GEV

Submitted *to Nuclear Physics*

S u m m a r y

In this paper we present the tables of the absolute differential cross-sections of the elastic $p-p$ scattering together with the values of the slope parameter $B=\frac{d}{dt}(\ln\frac{d\sigma}{dt})$ and the real part parameter $\alpha=\frac{Re\,A(0)}{Im\,A(0)}$ ($A(0)$ is the amplitude of the elastic $p-p$ scattering at $t=0$). The cross section data have been obtained at Serpukhov accelerator over 8 to 70 Gev in the t - range of 0.0007 - 0.12(Gev/c)^2.

This paper presents the differential cross sections of the elastic $p-p$ scattering obtained in two independent sets of measurements.

The experiments have been carried out at the Serpukhov accelerator by the method in which multiple passages of an internal beam of the circular accelerator through a thin target were used. We registered the recoil particles and measured their angle and energy using a system of semiconductor detectors and on-line computer[1,2].

The first part of the measurements covers the momentum transfer squared range of $0{,}008 \leq |t| \leq 0{,}12$ (GeV/c). The method and the results of the measurements of the slope parameter $B = \frac{d}{dt}(\ln \frac{d\sigma}{dt})$ have been published in ref.[2]. One example of differential cross sections of this series is shown in fig. 1.

The second set of the measurements was performed using a gas hydrogen jet as an internal target of the accelerator in the t - interval of $0.0007 \leq |t| \leq 0.02 (\text{GeV/c})^2$. Figure 2 presents the differential cross sections of this series. It is possible to see here the constructive in-

terference effect between Coulomb and nuclear scattering. From this experiment the ratio of the real to the imaginary part of the elastic $p-p$ scattering amplitude $\alpha = \frac{Re\,A(0)}{Im\,A(0)}$ /3,4/ was determined. The gas target and the equipment used in this experiment are described in ref. /5/.

In both the sets of the measurements the differential cross sections were obtained in relative units. The determination of the absolute elastic $p-p$ scattering differential cross sections, using the Serpukhov total cross section data /6/, is described in ref. /4/.

The tables with index* present the data from the first set only, the tables with** - from the second set of measurements. In those cases when the energy of the primary beam differed not more than by 3 Gev the data of both the sets were joined. These tables are denoted by index***.

Figure 3 illustrates the differential cross section in the interval of $0.001 \leq |t| \leq 0.115$ (Gev^2/c^2).

In front of each table the momentum P in the lab. system, at which the measurements have been performed, and the values of α and B calculated by the Bethe formula /3/, are given. These values are presented with statistical errors only.

The important sources of the systematic errors are: uncertainty of the sensitive area of semiconductor detectors (which results in a cross section error 1%), the uncertainty of the detector coordinates and apparatus mis-

takes (1%) connected with overloading of the electronics. The root mean square systematic errors are $\Delta B = \pm 0.3$ (GeV/c)$^{-2}$ and $\Delta \alpha = \pm 0.028$.

In the tables* we use the values of α from ref./4/. In the set** we take the values of B from/2/ (see the note).

The following designations are used in the tables: t is the square invariant four-momentum transfer in (Gev/c)^2. $\frac{d\sigma}{dt}$ is the elastic scattering differential cross section in mb/ (GeV/c)^2. $\Delta(\frac{d\sigma}{dt})$ is the absolute statistical error in mb/(GeV/c)^2.

The presented tables of the differential cross sections can be used for an analysis of experimental data by different theoretical models.

References

1. V.A.Nikitin, A.A.Nomofilov, V.A:Sviridov, L.N.Strunov, M.G.Shafranova. PTE 6, 18, 1963.
2. G.G.Beznogich, A.Buyak, N.K.Zhidkov, V.I.Zayachki, L.S.Zolin, K.I.Iovchev, L.F.Kirillova, P.K.Markov, V.A.Morozov, V.A.Nikitin, P.V.Nomokonov, V.A.Sviridov, Truong Bien, M.G.Shafranova, S.B.Nurushev, V.L.Solovianov.Ya.F. vol. 10, vyp. 6, 1212, 1969; Phys.Lett. 30B, 274, 1969; JINR Preprints E1-4628, 1969; P1-4594, 1969.
3. H.Bethe. Ann. of Phys., 3, 190, 1958.

Note to the tables: The values of the slope parameter presented at the beginning of each table with index*, differ insignificantly (within the limit of errors) from those published in ref./2/. This is explained by that the recent data on α /4/and on the $p-p$ total cross sections/6/ are used here.

4. V.D.Bartenev, G.G.Beznogich, A.Buyak, N.K.Zhidkov, V.I.Zayachki, L.S.Zolin, L.F.Kirillova, B.A.Morozov, V.A.Nikitin, P.V.Nomokonov, Yu.K.Pilipenko, A.Sandacz, V.A.Sviridov, Truong Bien, M.G.Shafranova. JINR Preprint P1-6246, 1972; Phys. Lett., 39B, 411 (1972).

5. V.D.Bartenev, A:A.Belushkina, N.K.Zhidkov, L.S.Zolin, B.A.Morozov, P.V.Nomokonov, V.A.Nikitin, Yu.K.Pilipenko, V.A.Sviridov, M.G.Shafranova. Proc. of the Int. Conf. on High Energy Phys. Apparatus, Dubna, 1970, vol. I, p. 16, JINR Prepeint D-5805, 1970.

6. Yu.P.Gorin, S.P.Denisov, S.V.Donskov, A.I.Petrukhin, Yu.D.Prokoshkin, D.A.Stoyanova, J.V.Allaby, G.Giacomelli. YaF, 14, 998, 1971.

Recieved by Publising Department
on July 20, 1972.

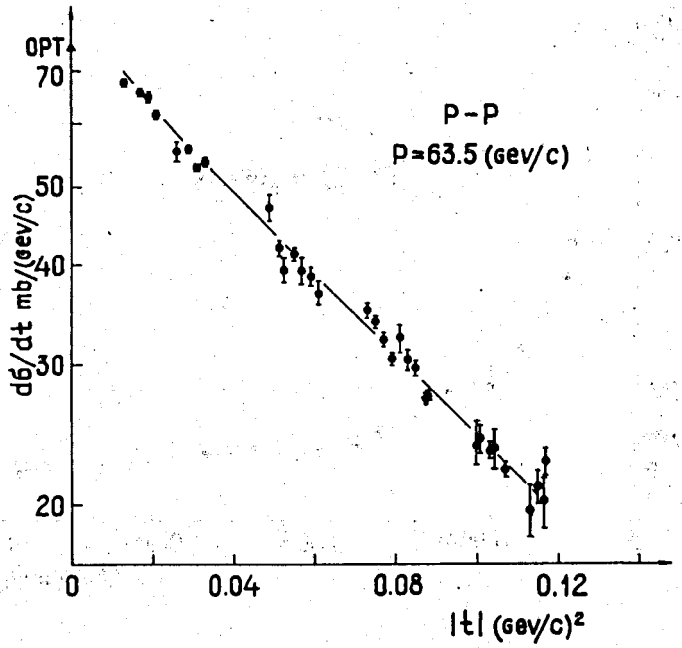


Fig. 1. Differential cross sections of the elastic scattering at $P = 63.5$ GeV/c ($0.013 \leq |t| \leq 0.116$ (GeV/c^2)) (the first series*).

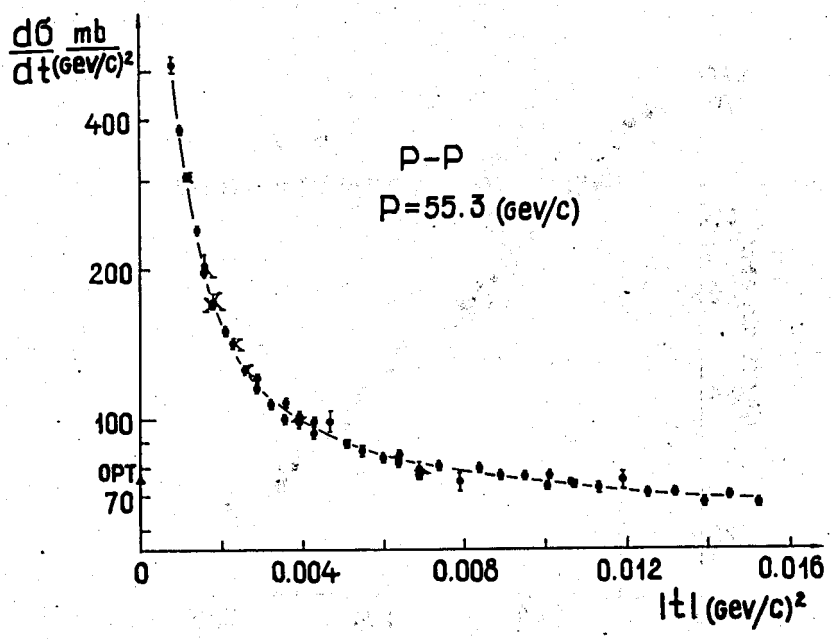


Fig. 2. Differential cross sections of the elastic scattering at 55.4 GeV/c in the interference region ($0.0008 \leq |t| \leq 0.015$ $(GeV/c)^2$) (the second series **).

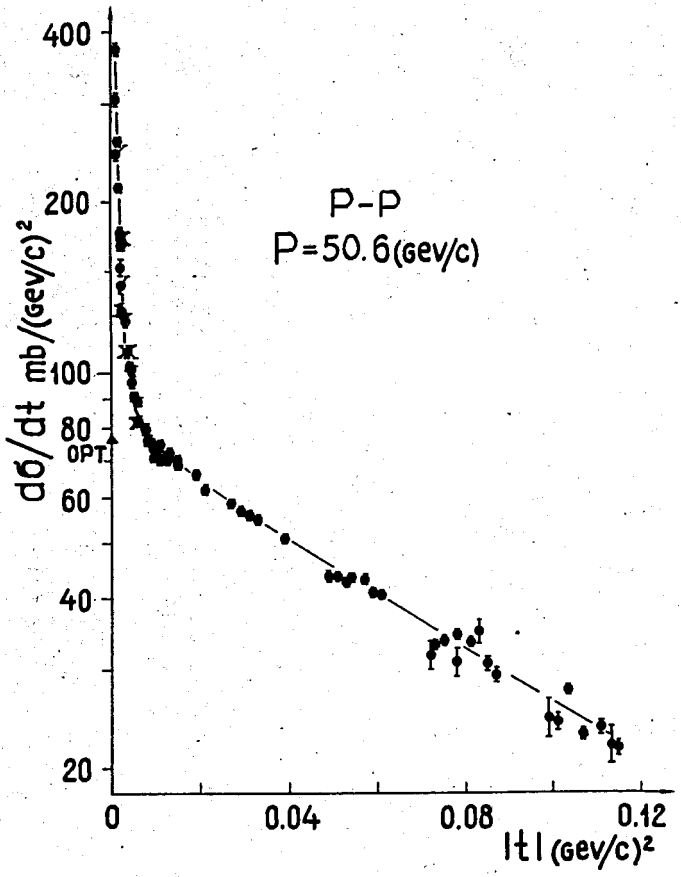


Fig. 3. Differential cross sections of the elastic scattering at P = 50.6 GeV/c ($0.00096 \leq |t| \leq 0.115$ (GeV/c)^2) (the third series***).

P=13.16 EV/C

B=10.32+/-0.17(C/GEV)**2

N	-t	dσ/dt	Δ(dσ/dt)
1	0.009[illegible]	85.13	1.04
2	0.011[illegible]	85.70	1.03
3	0.013[illegible]	82.[illegible]	1.30
4	0.015[illegible]	80.[illegible]	1.04
5	0.017[illegible]	79.[illegible]	1.03
6	0.019[illegible]	76.[illegible]	1.10
7	0.021[illegible]	76.[illegible]	1.30
8	0.023[illegible]	75.[illegible]	1.10
9	0.025[illegible]	76.[illegible]	1.30
10	0.027[illegible]	77.[illegible]	1.30
11	0.029[illegible]	77.[illegible]	1.27
12	0.031[illegible]	77.[illegible]	1.30
13	0.033[illegible]	77.[illegible]	1.30
14	0.035[illegible]	77.[illegible]	1.30
15	0.037[illegible]	72.[illegible]	1.30
16	0.039[illegible]	74.[illegible]	1.27
17	0.041[illegible]	73.[illegible]	1.30
18	0.043[illegible]	73.[illegible]	1.30
19	0.045[illegible]	75.[illegible]	1.50
20	0.047[illegible]	71.[illegible]	1.27
21	0.049[illegible]	71.[illegible]	1.30
22	0.051[illegible]	70.[illegible]	1.30

P=15.52 EV/C

B=10.31+/-0.15(C/GEV)**2

N	-t	dσ/dt	Δ(dσ/dt)
1	0.00890	85.60	1.01
2	0.01109	83.44	1.01
3	0.01644	77.63	0.90
4	0.01906	75.71	1.17
5	0.02663	69.80	2.02
6	0.02859	64.21	1.43
7	0.03053	66.12	1.43
8	0.03635	58.57	0.76
9	0.04632	54.73	2.02
10	0.04830	54.21	2.02
11	0.05032	51.44	1.43
12	0.05303	50.30	1.43
13	0.05617	46.81	2.02
14	0.06739	45.02	1.43
15	0.06925	42.73	2.02
16	0.07116	41.33	1.17
17	0.07263	39.91	1.43
18	0.07557	40.04	2.02
19	0.07600	40.14	2.02
20	0.07963	38.21	0.70
21	0.08078	36.39	0.76
22	0.09487	30.50	2.02
23	0.09713	30.81	1.17
24	0.09894	29.41	1.43
25	0.10249	29.08	1.43
26	0.10512	28.32	2.02
27	0.10692	29.68	2.02

P=21.71GEV/C

B=10.47+/-0.14(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01495	76.38	0.90
2	0.01671	74.51	0.90
3	0.01857	72.51	1.27
4	0.02017	70.87	1.27
5	0.02724	64.88	0.90
6	0.02960	63.31	1.27
7	0.03160	61.66	1.27
8	0.04778	51.45	1.80
9	0.04982	47.35	1.80
10	0.05158	47.79	1.04
11	0.05203	50.57	1.30
12	0.05488	46.58	1.27
13	0.05793	44.83	1.30
14	0.06972	39.57	1.27
15	0.07188	37.96	1.80
16	0.07242	38.63	1.90
17	0.07462	38.67	0.90
18	0.07792	36.92	1.80
19	0.07888	35.76	1.30
20	0.08110	37.84	1.80
21	0.08301	35.23	0.46
22	0.09563	30.20	1.30
23	0.09631	32.96	1.80
24	0.09879	28.15	1.27
25	0.10145	29.42	1.85
26	0.10219	26.40	1.30
27	0.10549	25.87	1.30
28	0.10651	27.33	1.30
29	0.10907	26.98	1.30
30	0.11022	25.21	1.30

P=24.56GEV/C

B=10.48+/-0.13(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01085	78.87	1.06
2	0.01515	75.32	0.82
3	0.01691	73.90	0.82
4	0.02042	68.61	1.06
5	0.02759	63.66	0.75
6	0.02948	62.46	1.29
7	0.03099	62.76	1.29
8	0.03215	57.95	1.83
9	0.03781	57.07	0.40
10	0.04891	48.45	1.29
11	0.05030	47.20	1.83
12	0.05230	48.55	0.75
13	0.05523	47.59	1.06
14	0.05647	45.48	1.29
15	0.07044	40.02	1.29
16	0.07267	38.37	1.06
17	0.07547	37.39	0.75
18	0.07921	37.27	1.29
19	0.08341	34.45	0.60
20	0.08410	32.61	0.69
21	0.09696	27.35	1.29
22	0.09866	28.66	1.06
23	0.10009	28.64	1.83
24	0.10277	28.94	0.75
25	0.10678	27.58	1.06
26	0.11089	25.29	1.06

P=27.53GEV/C

B=10.52+/-0.12(C/GEV)**2

N	-t	dσ/dt	Δ(dσ/dt)
1	0.00929	81.53	2.66
2	0.01094	77.96	1.15
3	0.01234	77.22	1.15
4	0.01524	74.40	0.81
5	0.01705	71.70	0.81
6	0.01877	72.18	1.15
7	0.02059	68.29	1.15
8	0.02972	60.63	1.41
9	0.03126	59.75	1.41
10	0.03240	61.35	1.99
11	0.03812	56.53	0.44
12	0.04861	46.70	1.99
13	0.05054	44.34	1.41
14	0.05273	46.44	0.81
15	0.05532	46.38	1.41
16	0.05640	46.63	1.99
17	0.05894	46.14	1.41
18	0.07134	37.34	1.15
19	0.07326	36.77	1.15
20	0.07581	37.35	1.41
21	0.07622	35.54	1.00
22	0.07917	36.08	1.41
23	0.08043	35.56	1.99
24	0.08319	34.33	1.15
25	0.08451	33.71	0.53
26	0.09773	27.41	1.41
27	0.09934	28.56	1.41
28	0.10050	27.72	1.41
29	0.10360	27.85	0.81
30	0.10716	23.05	1.41
31	0.10859	24.93	1.99
32	0.11120	26.77	1.99
33	0.11207	24.37	1.41

P=30.45GEV/C

B=10.49+/-0.12(C/GEV)**2

N	-t	dσ/dt	Δ(dσ/dt)
1	0.01101	77.01	0.82
2	0.01889	69.98	0.82
3	0.02787	60.05	0.82
4	0.02883	61.12	0.64
5	0.03075	57.81	1.43
6	0.03239	59.44	1.01
7	0.03837	55.61	0.31
8	0.04927	48.32	1.01
9	0.05069	47.65	0.82
10	0.05307	47.41	0.58
11	0.05567	45.10	1.01
12	0.05678	46.53	1.43
13	0.05911	45.87	0.82
14	0.07146	38.97	1.01
15	0.07319	36.88	0.82
16	0.07411	40.03	1.43
17	0.07657	37.10	0.58
18	0.07966	35.32	1.01
19	0.08097	32.49	1.43
20	0.08373	33.50	0.82
21	0.08515	33.42	0.38
22	0.09873	27.26	0.82
23	0.10098	27.83	0.82
24	0.10396	26.96	1.01
25	0.10441	27.37	0.79
26	0.10783	25.56	1.01
27	0.10931	23.35	1.43
28	0.11193	24.18	1.43
29	0.11277	24.39	1.01

P=33.32GEV/C

B=10.69+/-0.12(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01707	70.41	0.55
2	0.02083	67.38	0.84
3	0.02814	61.40	0.59
4	0.03035	57.22	0.84
5	0.03255	59.39	1.03
6	0.03857	54.47	0.32
7	0.04952	47.48	1.03
8	0.05095	44.86	0.84
9	0.05335	45.14	0.59
10	0.05596	43.17	1.03
11	0.05709	46.13	1.46
12	0.05962	41.40	1.03
13	0.07183	37.77	1.03
14	0.07327	36.57	1.03
15	0.07433	37.17	1.03
16	0.07697	36.02	0.59
17	0.08052	34.15	0.84
18	0.08370	36.10	1.46
19	0.08544	32.92	0.37
20	0.09885	27.06	1.03
21	0.10114	26.75	0.75
22	0.10480	26.19	0.59
23	0.10888	25.54	0.84
24	0.11307	24.38	0.84

P=36.16GEV/C

B=10.57+/-0.11(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00932	78.71	0.56
2	0.01112	77.14	1.02
3	0.01520	71.00	0.88
4	0.01701	70.69	0.63
5	0.01908	70.63	1.02
6	0.02092	65.55	1.02
7	0.02670	62.94	1.77
8	0.02826	61.35	0.72
9	0.03048	59.49	1.02
10	0.03874	54.39	0.39
11	0.04935	48.03	1.77
12	0.05091	45.82	0.88
13	0.05358	46.05	0.72
14	0.05658	44.40	1.02
15	0.05987	41.90	1.25
16	0.07248	36.78	1.02
17	0.07444	37.66	1.02
18	0.07730	35.88	0.72
19	0.08086	34.84	1.02
20	0.08549	32.42	0.56
21	0.08600	31.38	0.67
22	0.09927	26.90	1.25
23	0.10096	27.11	1.25
24	0.10218	26.28	1.25
25	0.10525	26.33	0.72
26	0.10883	25.92	1.25
27	0.11038	23.81	1.77
28	0.11355	24.38	1.02

P=45.17GEV/C

B=10.90+/-0.09(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01136	72.74	0.56
2	0.01268	72.99	0.81
3	0.01527	70.97	0.57
4	0.01723	68.65	0.43
5	0.02114	64.90	0.72
6	0.02716	59.59	0.72
7	0.02856	57.63	0.51
8	0.03297	55.08	0.93
9	0.05381	44.98	0.81
10	0.05423	44.33	0.61
11	0.05704	42.93	0.81
12	0.05860	40.00	1.14
13	0.06049	40.08	0.93
14	0.07309	34.92	0.81
15	0.07496	35.24	0.66
16	0.07783	33.50	0.66
17	0.07830	33.67	0.72
18	0.08121	33.37	0.93
19	0.08265	33.62	1.14
20	0.08517	30.75	0.66
21	0.09681	30.59	0.35
22	0.10075	26.17	0.72
23	0.10291	25.33	0.72
24	0.10587	25.17	0.93
25	0.10641	24.92	0.57
26	0.10983	24.07	1.14
27	0.11105	23.75	0.93
28	0.11337	22.96	1.61
29	0.11467	22.35	0.72

P=52.14GEV/C

B=11.00+/-0.12(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01095	71.54	0.84
2	0.01282	70.03	1.03
3	0.01512	69.27	0.78
4	0.01723	66.57	0.65
5	0.01920	67.27	1.83
6	0.02125	65.13	1.20
7	0.02555	58.60	2.07
8	0.02734	58.75	0.93
9	0.02871	58.71	0.73
10	0.03086	57.47	1.03
11	0.03304	54.36	0.93
12	0.03935	51.73	0.45
13	0.04885	46.85	2.07
14	0.05088	44.33	1.20
15	0.05271	44.62	1.20
16	0.05442	43.06	0.84
17	0.05706	39.83	1.46
18	0.05889	39.31	1.46
19	0.06079	40.08	1.46
20	0.07271	34.90	1.03
21	0.07520	34.99	0.93
22	0.07744	34.10	1.46
23	0.07843	32.77	0.78
24	0.08123	32.54	1.20
25	0.08306	32.30	2.07
26	0.08516	31.89	1.03
27	0.08738	29.33	0.45
28	0.10057	25.51	1.20
29	0.10313	24.41	0.93
30	0.10663	23.49	0.69
31	0.10948	24.67	2.07
32	0.11049	23.03	1.46
33	0.11212	23.46	2.07
34	0.11499	21.35	1.03

P=54.37GEV/C

B=11.12+/-0.13(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01081	75.01	0.84
2	0.01724	66.61	0.65
3	0.02129	60.72	1.09
4	0.02559	56.25	1.39
5	0.02711	55.97	1.09
6	0.02875	56.28	0.67
7	0.03091	57.34	0.94
8	0.03325	53.78	1.09
9	0.03941	51.23	0.41
10	0.05096	45.32	1.09
11	0.05223	40.32	1.34
12	0.05450	43.03	0.77
13	0.05715	39.61	1.34
14	0.05836	42.78	1.89
15	0.06089	36.78	1.34
16	0.07306	35.14	1.09
17	0.07518	34.80	1.09
18	0.07705	34.34	1.09
19	0.08136	31.86	1.09
20	0.08510	31.15	1.34
21	0.08748	29.08	0.39
22	0.10073	25.45	1.09
23	0.10310	23.95	0.94
24	0.10403	24.22	1.89
25	0.10683	23.62	0.67
26	0.10965	25.06	1.89
27	0.11067	23.30	1.34
28	0.11230	23.30	1.89
29	0.11521	21.35	0.94

P=57.04GEV/C

B=11.11+/-0.10(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01285	69.16	0.75
2	0.01504	69.60	0.62
3	0.01905	65.58	0.82
4	0.02108	60.68	0.73
5	0.02563	59.86	1.64
6	0.02706	57.88	0.73
7	0.02876	57.18	0.50
8	0.03092	55.10	0.73
9	0.03303	54.03	0.82
10	0.04896	47.12	1.64
11	0.05122	45.10	0.73
12	0.05286	43.55	0.95
13	0.05465	42.21	0.58
14	0.05726	41.74	0.95
15	0.05905	39.59	1.16
16	0.06102	38.34	0.95
17	0.07292	33.19	0.82
18	0.07519	34.61	0.67
19	0.07714	33.35	0.95
20	0.07878	32.98	0.55
21	0.08160	32.44	0.82
22	0.08512	30.54	0.95
23	0.08532	28.36	1.64
24	0.08739	29.66	0.41
25	0.08809	29.05	0.62
26	0.09961	26.01	1.64
27	0.10087	24.01	0.95
28	0.10316	24.58	0.67
29	0.10418	23.76	1.64
30	0.10705	23.74	0.50
31	0.10980	22.91	1.64
32	0.11086	22.37	0.95
33	0.11246	20.33	1.64
34	0.11531	21.81	0.82
35	0.11612	20.10	1.64

P=63.22GEV/C

B=11.05+/-0.11(C/GEV)**2

N	-t	dσ/dt	Δ(dσ/dt)
1	0.01078	71.36	0.47
2	0.01297	69.51	0.70
3	0.01997	62.37	0.70
4	0.02361	63.24	0.63
5	0.02568	58.32	0.09
6	0.02728	59.27	0.63
7	0.02876	56.59	0.42
8	0.03113	55.57	0.63
9	0.03306	53.14	0.63
10	0.03953	50.81	0.27
11	0.04306	46.25	1.40
12	0.05111	44.41	1.81
13	0.05233	45.57	0.99
14	0.05456	43.51	0.53
15	0.05736	39.75	1.40
16	0.05895	41.52	0.81
17	0.07309	35.04	0.70
18	0.07519	33.50	0.70
19	0.07711	34.24	0.63
20	0.07877	32.16	0.53
21	0.08075	32.24	1.40
22	0.08301	30.13	0.81
23	0.08552	30.07	0.63
24	0.08758	28.97	0.31
25	0.09930	27.08	1.40
26	0.10037	24.93	0.63
27	0.10332	23.53	0.70
28	0.10423	23.97	0.81
29	0.10705	23.15	0.39
30	0.11078	22.38	0.81
31	0.11257	23.83	0.99
32	0.11514	23.76	0.63
33	0.11625	19.31	1.40

P=63.53GEV/C

B=11.50+/-0.11(C/GEV)**2

N	-t	dσ/dt	Δ(dσ/dt)
1	0.01294	67.48	0.83
2	0.01719	65.70	0.55
3	0.01900	64.86	1.02
4	0.02095	61.94	0.83
5	0.02572	55.64	1.45
6	0.02879	56.11	0.55
7	0.03112	53.06	0.83
8	0.03280	53.86	1.02
9	0.04914	46.73	1.45
10	0.05161	41.58	1.02
11	0.05241	39.49	1.45
12	0.05466	41.00	0.65
13	0.05742	39.11	1.45
14	0.05926	38.86	1.02
15	0.06095	36.80	1.02
16	0.07296	34.98	0.83
17	0.07528	33.87	0.83
18	0.07736	32.04	0.83
19	0.07891	30.40	0.65
20	0.08093	32.29	1.45
21	0.08289	30.08	1.02
22	0.08542	29.57	0.83
23	0.08769	26.99	0.51
24	0.08839	27.42	0.55
25	0.09997	23.76	1.45
26	0.10105	24.19	1.02
27	0.10337	23.28	0.83
28	0.10432	23.01	1.45
29	0.10724	21.99	0.55
30	0.11068	22.56	1.02
31	0.11285	19.59	1.45
32	0.11514	20.95	1.02
33	0.11637	20.13	1.45

P=66.09GEV/C

B=11.24+/-0.11(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01064	70.55	0.55
2	0.02111	61.53	0.72
3	0.02575	55.91	1.44
4	0.02695	59.31	0.72
5	0.02897	55.85	0.51
6	0.03109	54.23	0.72
7	0.03335	54.40	1.02
8	0.05133	42.91	1.02
9	0.05218	44.91	0.83
10	0.05491	41.12	0.59
11	0.05750	39.57	1.02
12	0.05971	38.70	1.44
13	0.07371	31.42	1.44
14	0.07535	33.51	0.72
15	0.07628	32.84	1.44
16	0.07890	31.90	0.51
17	0.08101	30.10	1.44
18	0.08275	30.45	0.83
19	0.08514	29.13	1.44
20	0.08769	28.38	0.51
21	0.08848	26.98	0.54
22	0.10114	23.93	1.02
23	0.10344	23.93	0.64
24	0.10442	23.50	1.44
25	0.10737	22.06	0.59
26	0.10806	23.16	1.02
27	0.11099	21.66	0.83
28	0.11296	21.56	1.44
29	0.11567	20.23	1.44
30	0.11653	19.22	1.02

P=69.18GEV/C

B=11.45+/-0.09(C/GEV)**2

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.01059	69.87	0.74
2	0.01517	66.44	0.40
3	0.01710	64.82	0.47
4	0.01897	62.64	0.60
5	0.02734	57.92	0.74
6	0.02900	56.19	0.43
7	0.03086	53.48	0.60
8	0.03543	49.67	1.05
9	0.03979	48.06	0.40
10	0.05211	43.35	1.05
11	0.05511	40.87	0.74
12	0.05758	37.89	1.05
13	0.06142	35.29	1.05
14	0.07296	34.54	0.74
15	0.07548	32.33	0.60
16	0.08111	30.96	0.74
17	0.08238	29.89	1.05
18	0.08525	28.66	0.74
19	0.08691	28.07	1.05
20	0.08859	27.58	0.28
21	0.10098	23.32	0.74
22	0.10371	22.66	0.52
23	0.10717	22.23	0.47
24	0.10820	21.97	1.05
25	0.11077	21.90	0.60
26	0.11667	20.17	1.05

•• P= 9.43GEV/C

α =-0.351+/-0.048

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00079	611.34	14.49
2	0.00095	491.50	12.67
3	0.00112	390.00	6.30
4	0.00130	304.58	7.21
5	0.00150	272.56	3.89
6	0.00171	230.66	6.67
7	0.00172	245.54	5.85
8	0.00194	206.38	3.58
9	0.00218	188.17	4.27
10	0.00244	164.52	2.98
11	0.00271	160.36	4.41
12	0.00299	149.16	2.72
13	0.00329	146.02	3.81
14	0.00360	135.40	3.37
15	0.00361	136.46	2.81
16	0.00393	128.64	3.14
17	0.00426	128.67	3.42
18	0.00462	117.64	3.34
19	0.00499	114.14	2.81
20	0.00537	113.97	2.54
21	0.00576	109.31	1.69
22	0.00618	105.82	2.42
23	0.00660	107.52	2.32
24	0.00704	105.54	2.60
25	0.00749	104.55	2.67
26	0.00796	100.65	2.26
27	0.00846	99.64	2.10
28	0.00895	97.45	1.41
29	0.00947	95.99	2.00
30	0.00999	96.24	1.94
31	0.01052	94.15	2.20
32	0.01108	91.37	2.20
33	0.01165	90.53	1.92
34	0.01283	88.66	1.61

P=19.23GEV/C

α =-0.245+/-0.028

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00106	365.07	4.36
2	0.00125	302.48	5.53
3	0.00146	244.08	4.70
4	0.00168	209.18	2.68
5	0.00191	192.49	4.55
6	0.00192	185.92	2.77
7	0.00217	159.26	3.22
8	0.00244	142.13	3.01
9	0.00272	145.23	2.13
10	0.00302	127.57	2.84
11	0.00334	121.77	1.96
12	0.00366	114.03	1.72
13	0.00367	120.17	2.26
14	0.00401	106.10	3.31
15	0.00402	110.77	1.88
16	0.00437	108.16	5.19
17	0.00475	103.23	2.31
18	0.00514	101.42	2.11
19	0.00555	98.58	2.09
20	0.00597	93.79	1.34
21	0.00642	93.34	0.99
22	0.00687	94.82	2.65
23	0.00734	89.10	3.82
24	0.00782	86.82	1.85
25	0.00833	87.55	1.73
26	0.00885	84.14	1.71
27	0.00940	86.86	1.15
28	0.00994	82.92	0.84
29	0.01052	82.53	2.23
30	0.01110	78.41	3.49
31	0.01169	78.93	1.64
32	0.01231	78.08	1.51
33	0.01294	79.83	1.52
34	0.01359	77.80	1.29
35	0.01426	77.15	1.11

** P=30.42GEV/C

α=-0.176+/-0.022

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00107	332.80	6,81
2	0.00124	268.41	5,07
3	0.00132	267.10	6,49
4	0.00143	224.65	4,62
5	0.00152	226.95	3,83
6	0.00162	202.63	3,84
7	0.00172	193.28	4,49
8	0.00181	182.97	5,02
9	0.00195	162.78	3,91
10	0.00203	168.85	3,67
11	0.00218	156.67	3,12
12	0.00229	145.15	3,53
13	0.00242	138.55	2,91
14	0.00254	131.41	2,25
15	0.00268	127.31	2,37
16	0.00281	124.36	2,76
17	0.00310	118.90	2,48
18	0.00338	107.81	2,09
19	0.00357	106.08	2,48
20	0.00369	104.41	1,94
21	0.00388	101.89	2,13
22	0.00400	97.82	1,57
23	0.00423	101.66	2,16
24	0.00457	94.52	1,49
25	0.00493	92.48	1,91
26	0.00531	90.03	1,81
27	0.00568	88.56	1,52
28	0.00607	90.26	1,54
29	0.00636	87.08	1,77
30	0.00647	84.83	1,27
31	0.00678	83.79	1,60
32	0.00724	80.84	1,65
33	0.00768	82.78	1,17
34	0.00814	81.35	1,54
35	0.00863	80.36	1,47
36	0.00910	81.71	1,28
37	0.00960	76.79	1,24
38	0.00999	75.63	1,56
39	0.01010	79.18	1,06
40	0.01051	73.89	1,40
41	0.01108	73.97	1,49
42	0.01163	73.36	1,05
43	0.01220	72.42	1,35
44	0.01279	74.08	1,31
45	0.01336	71.55	1,14
46	0.01396	72.35	1,13
47	0.01457	71.45	0,92

P=55,38GEV/C

α=-0,154+/-0,023

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00079	513.97	21,49
2	0.00096	391.69	6,34
3	0.00115	304.04	4,71
4	0.00136	239.57	8,19
5	0.00158	198.88	4,25
6	0.00181	174.50	4,67
7	0.00182	173.44	2,83
8	0.00207	151.00	2,63
9	0.00234	141.76	3,01
10	0.00263	125.61	2,81
11	0.00293	118.05	2,00
12	0.00325	107.30	2,60
13	0.00359	104.21	1,84
14	0.00394	101.96	2,14
15	0.00395	98.71	2,10
16	0.00432	97.23	1,53
17	0.00470	98.95	4,78
18	0.00510	89.05	2,12
19	0.00553	86.64	1,94
20	0.00597	83.50	1,91
21	0.00642	84.97	1,26
22	0.00688	91.33	1,64
23	0.00690	79.23	1,40
24	0.00737	90.48	2,40
25	0.00788	75.46	3,56
26	0.00839	78.66	1,73
27	0.00893	77.21	1,61
28	0.00949	76.22	1,64
29	0.01007	74.84	1,06
30	0.01067	74.17	0,91
31	0.01128	73.00	2,07
32	0.01190	75.97	3,20
33	0.01253	70.72	1,52
34	0.01319	71.16	1,38
35	0.01387	67.98	1,41
36	0.01456	70.28	1,20
37	0.01527	68.03	1,07

** P=59,40GEV/C

α=-0,122+/-0,020

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00079	501,78	13,39
2	0.00096	380,55	8,41
3	0.00115	295,37	4,70
4	0.00136	244,27	4,03
5	0.00155	202,47	5,38
6	0.00157	211,10	6,73
7	0.00158	199,79	6,92
8	0.00181	164,72	5,19
9	0.00182	165,51	3,08
10	0.00207	145,87	2,63
11	0.00234	135,39	2,32
12	0.00259	120,67	3,26
13	0.00263	124,22	2,41
14	0.00293	114,93	1,72
15	0.00325	105,56	1,93
16	0.00359	99,56	1,71
17	0.00391	98,30	2,22
18	0.00395	98,68	2,17
19	0.00432	89,10	1,34
20	0.00470	93,10	2,69
21	0.00511	86,59	1,45
22	0.00553	86,61	1,29
23	0.00597	81,29	1,43
24	0.00637	80,86	1,74
25	0.00642	82,34	1,74
26	0.00690	77,36	1,10
27	0.00738	79,36	1,43
28	0.00788	74,16	2,06
29	0.00840	75,53	1,78
30	0.00843	73,91	1,66
31	0.00894	75,82	1,42
32	0.00897	76,96	1,65
33	0.00950	73,49	1,47
34	0.00952	76,67	2,05
35	0.01001	73,27	1,43
36	0.01010	70,17	1,51
37	0.01067	72,55	0,96
38	0.01129	71,69	1,27
39	0.01191	71,39	1,90
40	0.01255	71,05	1,54
41	0.01321	69,59	1,25
42	0.01388	70,36	1,36
43	0.01450	67,54	1,29
44	0.01529	69,28	1,14

P=69,84GEV/C

α=-0,106+/-0,020

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00110	306,77	6,70
2	0.00127	248,46	4,93
3	0.00136	245,15	6,79
4	0.00146	201,55	4,33
5	0.00155	201,67	3,88
6	0.00166	174,08	3,53
7	0.00177	171,77	4,42
8	0.00185	175,21	4,99
9	0.00200	152,85	3,87
10	0.00208	155,00	3,92
11	0.00223	131,44	3,02
12	0.00235	134,59	3,61
13	0.00248	126,45	2,90
14	0.00260	120,95	2,19
15	0.00274	116,72	2,37
16	0.00288	114,26	2,73
17	0.00317	106,27	2,43
18	0.00346	97,32	2,02
19	0.00365	101,15	2,40
20	0.00377	97,29	1,92
21	0.00397	94,33	2,17
22	0.00409	91,48	1,54
23	0.00433	88,73	2,14
24	0.00468	98,69	1,50
25	0.00504	88,13	1,91
26	0.00543	84,00	1,79
27	0.00580	84,27	1,52
28	0.00621	81,31	1,50
29	0.00650	77,54	1,69
30	0.00662	80,96	1,29
31	0.00693	77,71	1,56
32	0.00740	78,51	1,64
33	0.00786	74,87	1,16
34	0.00833	74,26	1,49
35	0.00882	75,46	1,44
36	0.00930	74,26	1,26
37	0.00981	73,80	1,25
38	0.01021	71,28	1,52
39	0.01032	75,07	1,07
40	0.01074	69,78	1,39
41	0.01133	67,73	1,50
42	0.01189	70,40	1,05
43	0.01247	68,00	1,36
44	0.01307	67,45	1,31
45	0.01366	69,96	1,13
46	0.01427	67,70	1,12
47	0.01489	65,80	0,93

** P=69.84GEV/C

α =-0.083+/-0.016

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$	N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00105	324.17	7.23	19	0.00667	78.34	1.12
2	0.00125	252.65	5.95	20	0.00715	76.58	1.48
3	0.00146	207.91	3.21	21	0.00765	76.54	1.47
4	0.00169	173.52	2.32	22	0.00870	73.64	1.04
5	0.00193	155.03	3.38	23	0.00923	72.05	1.04
6	0.00194	15 .98	2.63	24	0.00982	73.70	0.99
7	0.00220	134.43	2.20	25	0.01043	71.69	0.97
8	0.00248	120.66	1.89	26	0.01101	69.28	0.97
9	0.00278	114.17	1.51	27	0.01163	67.78	1.29
10	0.00309	105.15	1.41	28	0.01291	65.31	0.90
11	0.00342	99.86	1.57	29	0.01358	67.08	0.89
12	0.00377	92.49	1.38	30	0.01426	67.20	0.86
13	0.00413	92.23	1.43	31	0.01497	65.58	0.84
14	0.00451	85.80	1.84	32	0.01568	65.00	0.84
15	0.00452	88.04	1.97	33	0.01641	63.11	1.08
16	0.00532	82.54	1.24	34	0.01792	63.19	1.02
17	0.00575	81.74	1.21	35	0.01952	61.84	0.98
18	0.00620	78.56	1.14	36	0.02035	62.22	1.07

*** P=18.90GEV/C
α=-0.259+/-0.027
B=10.24+/-0.11

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$	N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00090	469.18	9.22	35	0.01112	82.16	1.73
2	0.00107	371.05	7.06	36	0.01172	81.62	1.53
3	0.00126	294.99	3.89	37	0.01233	80.01	1.29
4	0.00145	245.19	5.52	38	0.01354	79.04	1.29
5	0.00147	247.43	6.89	39	0.01428	77.05	1.19
6	0.00169	219.30	3.50	40	0.01474	77.61	0.69
7	0.00193	191.44	2.67	41	0.01677	75.07	0.61
8	0.00218	164.51	2.22	42	0.02002	73.52	1.38
9	0.00242	152.45	3.51	43	0.02691	65.43	0.79
10	0.00245	150.30	2.43	44	0.02918	65.95	0.97
11	0.00274	139.49	1.72	45	0.03115	63.31	0.97
12	0.00304	13 .83	2.03	46	0.03687	58.77	0.37
13	0.00335	123.92	1.72	47	0.04716	53.36	1.38
14	0.00365	115.39	2.25	48	0.04918	53.63	1.38
15	0.00368	115.56	2.18	49	0.05123	49.78	0.97
16	0.00403	112.07	1.79	50	0.05375	48.82	1.38
17	0.00404	108.73	2.05	51	0.05447	50.65	1.38
18	0.00439	113.20	2.55	52	0.05719	46.46	1.38
19	0.00477	101.20	1.43	53	0.06875	40.89	0.97
20	0.00515	100.57	1.30	54	0.07115	42.86	0.97
21	0.00557	98.84	1.50	55	0.07341	39.56	0.79
22	0.00595	95.61	1.75	56	0.07411	39.57	1.38
23	0.00600	95.52	1.70	57	0.07731	39.14	0.97
24	0.00643	92.33	1.14	58	0.07989	38.64	1.38
25	0.00689	93.08	1.38	59	0.08155	36.61	0.49
26	0.00736	89.43	1.98	60	0.08224	35.52	0.52
27	0.00784	91.96	1.75	61	0.09509	31.03	1.38
28	0.00836	89.32	1.09	62	0.09742	30.37	0.97
29	0.00888	87.83	1.25	63	0.09977	29.44	0.97
30	0.00902	85.95	3.56	64	0.10071	29.06	0.97
31	0.00935	84.58	1.47	65	0.10454	29.60	0.93
32	0.00943	86.21	1.51	66	0.10744	29.15	1.38
33	0.00997	83.24	1.98	67	0.10883	26.91	1.38
34	0.01054	83.66	1.21				

*** P=38.013EV/C
α=-0.171+/-0.029
B=10.68+/-0.09

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$	N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00086	463.19	13.05	34	0.01264	70.33	2.22
2	0.00103	360.36	12.19	35	0.01331	72.44	1.78
3	0.00123	282.74	5.75	36	0.01397	70.67	1.67
4	0.00143	234.32	7.00	37	0.01467	72.47	1.88
5	0.00144	227.86	4.88	38	0.01709	69.59	0.42
6	0.00166	200.22	3.55	39	0.02100	67.22	0.73
7	0.00190	169.98	3.92	40	0.02713	60.93	0.65
8	0.00216	155.28	3.19	41	0.02837	59.67	0.59
9	0.00243	136.69	2.90	42	0.03090	59.40	0.65
10	0.00272	121.72	2.34	43	0.03293	58.54	0.93
11	0.00303	119.24	2.77	44	0.04894	47.69	0.92
12	0.00335	104.25	2.20	45	0.05111	45.24	0.63
13	0.00369	105.62	3.17	46	0.05365	46.02	0.52
14	0.00370	100.17	2.82	47	0.05402	46.15	1.27
15	0.00405	94.77	2.14	48	0.05573	43.93	0.73
16	0.00442	97.85	2.87	49	0.05692	43.29	1.27
17	0.00481	95.11	2.76	50	0.06008	41.29	0.93
18	0.00522	92.46	2.18	51	0.07139	35.02	1.27
19	0.00564	89.72	1.76	52	0.07274	37.94	0.73
20	0.00609	84.73	1.63	53	0.07471	35.70	0.73
21	0.00654	83.66	1.72	54	0.07753	34.18	0.49
22	0.00700	84.82	2.31	55	0.08296	32.67	0.96
23	0.00749	81.32	2.23	56	0.08463	32.84	0.73
24	0.00799	84.32	2.26	57	0.08625	31.42	0.34
25	0.00851	82.67	2.53	58	0.08975	32.88	0.9
26	0.00906	79.42	1.52	59	0.09963	28.56	0.9
27	0.00962	77.45	1.41	60	0.10132	26.35	0.93
28	0.01019	77.54	1.51	61	0.10255	25.41	0.93
29	0.01079	74.75	1.98	62	0.10557	25.69	0.48
30	0.01128	75.55	1.53	63	0.10922	24.79	0.93
31	0.01139	72.85	1.95	64	0.11078	25.03	1.27
32	0.01200	72.35	1.89	65	0.11318	24.41	0.93
33	0.01258	74.2	1.73				

*** P=43.52 EV/C
α=-0.160+/-0.021
B=19.82+/-0.11

N	-t	$\frac{d\sigma}{dt}$	$\Delta(\frac{d\sigma}{dt})$	N	-t	$\frac{d\sigma}{dt}$	$\Delta(\frac{d\sigma}{dt})$
1	0.00088	434.15	8.76	34	0.01276	72.26	1.53
2	0.00106	349.42	8.49	35	0.01342	69.62	1.21
3	0.00125	279.66	3.99	36	0.01410	70.00	1.20
4	0.00146	221.15	2.84	37	0.01479	68.39	1.39
5	0.00169	184.24	2.39	38	0.01713	59.34	0.59
6	0.00193	160.41	4.32	39	0.02107	57.01	0.83
7	0.00194	163.52	3.48	40	0.02845	59.63	0.58
8	0.00223	149.04	2.20	41	0.03068	58.18	0.83
9	0.00247	134.82	2.10	42	0.03301	56.48	0.83
10	0.00275	122.93	2.44	43	0.03900	52.53	0.31
11	0.00277	119.44	2.18	44	0.04967	43.88	1.43
12	0.00308	110.16	1.91	45	0.05126	43.92	0.71
13	0.00343	104.22	1.55	46	0.05377	44.74	0.93
14	0.00375	104.59	1.49	47	0.05411	44.83	0.83
15	0.00411	93.24	1.48	48	0.05696	43.46	0.83
16	0.00448	90.46	2.04	49	0.06027	42.81	1.01
17	0.00487	94.61	1.83	50	0.07297	37.20	0.83
18	0.00528	84.83	1.49	51	0.07494	35.19	0.83
19	0.00572	85.50	1.26	52	0.07770	34.72	0.71
20	0.00615	82.55	1.15	53	0.07806	32.88	1.01
21	0.00661	83.57	1.23	54	0.08044	33.33	1.01
22	0.00708	81.33	1.62	55	0.08233	33.92	1.43
23	0.00757	81.25	1.66	56	0.08509	32.60	0.83
24	0.00807	81.43	1.48	57	0.08652	30.57	0.38
25	0.00859	75.95	1.75	58	0.09979	27.01	1.43
26	0.00915	77.31	1.06	59	0.10061	26.19	1.01
27	0.00971	77.69	1.00	60	0.10262	25.64	0.83
28	0.01029	75.14	1.06	61	0.10572	25.22	0.83
29	0.01089	72.60	1.40	62	0.10618	24.95	0.83
30	0.01119	74.53	0.83	63	0.10955	25.01	1.01
31	0.01149	75.27	1.48	64	0.11113	24.92	1.43
32	0.01211	72.59	1.29	65	0.11379	23.97	1.43
33	0.01262	71.75	0.83				

*** P=50.52 GEV/C
α=-0.159+/-0.050
B=13.34+/-0.11

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$	N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00096	373.87	11.49	34	0.01581	71.39	1.54
2	0.00115	304.70	9.38	35	0.01517	70.65	0.77
3	0.00135	259.43	5.23	36	0.01521	59.44	1.37
4	0.00157	214.19	5.38	37	0.01927	67.14	0.95
5	0.00180	174.54	5.63	38	0.02121	63.29	0.95
6	0.00181	175.02	3.98	39	0.02727	59.87	0.85
7	0.00206	143.76	3.85	40	0.02864	57.53	0.57
8	0.00233	132.02	3.07	41	0.03082	57.09	0.95
9	0.00261	129.72	3.25	42	0.03291	55.79	0.95
10	0.00292	119.54	2.34	43	0.03925	52.09	0.85
11	0.00324	111.43	3.34	44	0.04931	44.61	1.34
12	0.00358	103.36	2.25	45	0.05109	44.28	0.95
13	0.00393	104.22	4.39	46	0.05262	43.40	1.29
14	0.00430	100.13	2.12	47	0.05429	44.14	0.67
15	0.00468	92.97	2.43	48	0.05693	44.43	1.09
16	0.00508	92.74	2.71	49	0.05876	42.02	1.34
17	0.00550	90.68	2.67	50	0.06063	41.10	1.09
18	0.00594	85.07	2.14	51	0.07183	32.80	1.89
19	0.00639	84.61	2.72	52	0.07311	33.63	1.09
20	0.00687	82.17	1.55	53	0.07524	34.25	0.85
21	0.00734	81.65	2.72	54	0.07779	31.40	1.89
22	0.00784	76.39	1.83	55	0.07833	35.09	0.67
23	0.00836	77.97	2.14	56	0.08146	33.78	1.09
24	0.00890	77.52	2.14	57	0.08291	33.83	1.89
25	0.00926	75.72	0.55	58	0.08531	31.29	0.95
26	0.00945	75.06	1.74	59	0.08707	29.71	0.41
27	0.01005	74.55	2.23	60	0.09911	25.89	1.89
28	0.01062	75.35	1.31	61	0.10091	24.45	0.95
29	0.01123	71.26	2.19	62	0.10337	28.05	0.95
30	0.01185	71.38	1.56	63	0.10656	23.66	0.63
31	0.01248	71.07	1.80	64	0.11066	24.07	0.95
32	0.01268	69.35	1.89	65	0.11374	22.29	1.89
33	0.01314	72.10	1.83	66	0.11508	22.13	0.95

*** P=69.847GEV/C
α =-0.336+/-0.023
B=11.48+/-..15

N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$	N	-t	$\frac{d\sigma}{dt}$	$\Delta\left(\frac{d\sigma}{dt}\right)$
1	0.00111	293.45	11.09	38	0.01517	65.58	1.30
2	0.00131	237.33	8.93	39	0.01525	67.38	0.81
3	0.00153	194.25	4.85	40	0.01590	64.27	1.22
4	0.00176	172.79	3.50	41	0.01663	63.27	1.65
5	0.00201	147.75	5.29	42	0.01739	64.85	1.51
6	0.00202	156.74	3.86	43	0.01752	66.48	0.94
7	0.00228	134.21	3.25	44	0.01815	65.26	1.64
8	0.00257	119.42	2.91	45	0.01895	63.93	1.69
9	0.00287	113.24	2.29	46	0.01907	64.91	1.15
10	0.00319	104.57	2.15	47	0.01976	61.93	1.58
11	0.00355	99.33	2.46	48	0.02059	61.42	1.71
12	0.00388	98.19	2.17	49	0.02144	62.33	1.67
13	0.00424	93.33	2.87	50	0.02157	58.85	1.63
14	0.00425	91.73	3.21	51	0.02581	56.45	1.63
15	0.00463	85.48	2.76	52	0.02737	57.15	1.63
16	0.00464	89.86	3.09	53	0.02906	54.79	0.83
17	0.00503	85.55	2.52	54	0.03091	53.64	1.15
18	0.00545	82.55	1.94	55	0.03549	49.28	1.92
19	0.00589	81.45	1.87	56	0.03982	47.84	0.66
20	0.00634	76.98	1.79	57	0.05143	44.18	1.63
21	0.00681	75.40	1.69	58	0.05515	40.15	1.15
22	0.00730	73.54	1.64	59	0.05762	39.14	1.63
23	0.00780	70.91	2.22	60	0.06140	35.41	1.63
24	0.00832	72.95	1.96	61	0.07304	33.94	1.63
25	0.00846	75.49	1.69	62	0.07533	33.11	1.15
26	0.00836	73.25	1.65	63	0.07885	30.60	0.83
27	0.00942	71.59	1.59	64	0.08121	34.15	1.63
28	0.00999	75.14	1.54	65	0.08244	28.88	1.63
29	0.01049	68.73	2.94	66	0.08535	30.44	1.63
30	0.01058	71.17	1.49	67	0.08697	28.45	1.63
31	0.01119	69.75	1.45	68	0.08869	27.33	0.63
32	0.01182	7 .73	1.97	69	0.10110	25.57	1.53
33	0.01245	68.14	1.76	70	0.10305	24.72	1.63
34	0.01310	67.33	1.92	71	0.10407	22.62	1.63
35	0.01318	64.17	1.63	72	0.10709	21.32	1.15
36	0.01378	65.36	1.37	73	0.10817	21.28	1.15
37	0.01447	65.54	1.33				