Table (3.3): The values of Y_{ij} and H_{ij} for meson Produced from incident baryon.

Incident	Outgoing	Y_{ij}^{BM}	H_{ij}^{BM}
P (uud)	$\pi^+(u\bar{d})$	$\frac{12}{(2+\varepsilon)}$	$\frac{18}{(2+\varepsilon)^2}$
	$\pi^-(d\bar{u})$	$\frac{6}{(2+\varepsilon)}$	$\frac{18}{(2+\varepsilon)^2}$
	$K^+(u\bar{s})$	$\frac{12\varepsilon}{(2+\varepsilon)}$	$\frac{\varepsilon}{(2+\varepsilon)^2}$
	$K^-(s\bar{u})$	0	$\frac{\varepsilon}{(2+\varepsilon)^2}$
	$J/\psi(c\bar{c})$	0	$\frac{18}{(2+\varepsilon)^2}$

Table (3.4): The values of Y_{ij} and H_{ij} for baryon Produced from incident meson.

Incident	Outgoing	Y_{ij}^{MB}	H_{ij}^{MB}
$\pi^+(u\bar{d})$	$p(uud)$	$\frac{(12)^2}{(2+\varepsilon)^2}$	$\frac{1}{(2+\varepsilon)^3}$
$\pi^-(\bar{u}d)$	$p(uud)$	$\frac{(6)^2}{(2+\varepsilon)^2}$	$\frac{1}{(2+\varepsilon)^3}$
	$\bar{P}(\bar{u}\bar{u}\bar{d})$	0	$\frac{1}{(2+\varepsilon)^3}$

In case of Dual parton model by Capella [63-65] the inclusive cross-section depends on the fragmentation function of the projectile and the momentum distribution function of the quarks inside the outgoing particles. The fragmentation function is parameterized in the form $xD(x) \to (1-x)^n$ where n depends on the reaction type [44].

This model considers two different color exchange mechanisms, namely the q-removal and the $q\bar{q}$-removal as basic processes. These two mechanisms in hadron-hadron collisions usually lead to a reasonable description of the cross sections of the reactions $hh \to h'X$ without any need to modify the measured fragmentation functions. The adjustable parameters in this model are the weight factors w_i where $\sum_{i=1}^{4} w_i = 1$,

w_1 is the weight factor for the $q_s\bar{q}_s$-removal, w_2 is that for the $q_v\bar{q}_s$- removal, w_3 is that for the q_s-removal and w_4 is that for the q_v-removal, q_v and q_s refer to valence and sea quarks respectively.

Fig. (3.1) shows the longitudinal momentum distributions for different reaction mechanisms (x being the Feynman scale parameter) in the reaction $p+p \to p+X$. One can see that the two contributions for q_s-removal and $q_s\bar{q}_s$-removal are responsible for the leading particle effect. These mechanisms are related to w_3 and w_1 weights, respectively. The values of these weights for the different reaction types which give the best fit to the experimental data are listed in Table (3.5)

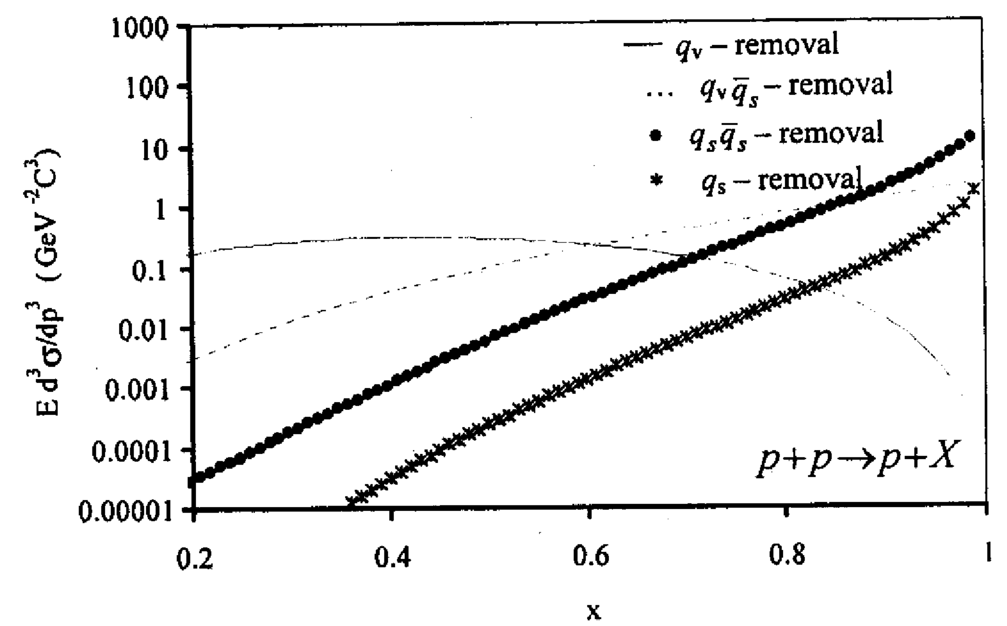

Fig. (3.1) The longitudinal –momentum dependence of the inclusive cross section for different mechanisms.

Table (3.5):

Reaction	w_1	w_2	w_3	w_4
$\pi^+ + p \rightarrow \pi^+ + X$	0.4	0.2	0.3	0.1
$\pi^- + p \rightarrow \pi^- + X$	0.5	0.2	0.1	0.2
$p + p \rightarrow p + X$	0.1	0.2	0.1	0.6
$p + p \rightarrow \pi^+ + X$	1.0	0.0	0.0	0.0
$\pi^+ + p \rightarrow \pi^- + X$	1.0	0.0	0.0	0.0
$p + p \rightarrow \pi^- + X$	1.0	0.0	0.0	0.0
$p + p \rightarrow J/\psi + X$	0.7	0.3	0.0	0.0
$p + p \rightarrow K^+ + X$	0.2	0.1	0.3	0.4
$p + p \rightarrow K^- + X$	0.2	0.1	0.3	0.4
$p + p \rightarrow \Sigma^- + X$	0.3	0.2	0.1	0.4
$p + p \rightarrow \Xi^- + X$	0.2	0.1	0.1	0.6
$p + p \rightarrow \Omega^- + X$	0.1	0.1	0.1	0.7
$\pi^+ + p \rightarrow K^+ + X$	0.3	0.2	0.1	0.4
$\pi^+ + p \rightarrow K^- + X$	0.4	0.2	0.1	0.3
$\pi^- + p \rightarrow D^0 + X$	0.1	0.0	0.0	0.9
$\pi^- + p \rightarrow p + X$	0.1	0.2	0.3	0.4
$\pi^- + p \rightarrow \bar{p} + X$	0.2	0.4	0.1	0.3
$\pi^+ + p \rightarrow p + X$	1.0	0.0	0.0	0.0