SINGLE PRODUCTION OF COLOR OCTET MUONS AT HIGH ENERGY PP COLLIDERS

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The profileration of numbers of leptons and quarks has increased the speculations that they could be composite structures, i.e., bound states of more fundamental constituents so called "preons". On the other hand, the Standard Model's failure to explain the number of fundamental problems such as lepton-quark symmetry, family replication, hierarchy problem, charge quantization, etc. forced physicists to go beyond it. Today SUSY and compositeness seem to be the most promising canditates for underlying physics. With too many arbitrary parameters, more than two hundreds in the case of three SM families, the MSSM does not look like a realistic theory. Therefore the compositeness stays alone as a radical. In order to test our composite model, i.e., fermion-scalar model, we need to produce the new particles at high energy colliders. In this work, we explore the single production of color octet muons at high energy pp colliders.

THE DETERMINATION OF THE PULSE PILE-UP REJECT (PUR) COUNTING FOR X AND GAMMA RAY SPECTROMETRY

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Collection the charged particles produced by the incident radiation requires a time interval. If this time interval is not sufficiently short compared with the peaking time of the amplifier, a loss in the recovered signal amplitude occurs. Another major constraint on the throughput of modern x or gamma-ray spectrometers is the time required to subsequently the pulse processing by the electronics. Two above-mentioned limitations are cause of counting losses resulting from the dead time and the pile-up. The pulse pile-up is a common problem in x and gamma ray radiation detection systems. The pulses pile-up in spectroscopic analysis can cause significant errors. Therefore, inhibition of these pulses is a vital step. A way to reduce errors due to the pulse pile-up is a pile-up inspection circuitry (PUR). Such a circuit rejects some of the pulse pile-up. Therefore, this circuit leads to counting losses. Determination of these counting losses is an important problem. In this work, a new method is suggested for determination of the pulse pile-up reject.

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