Contribution ID: **63** Type: **Oral presentation using Zoom**

Leptoquarks and Zeros of Amplitude at Electron-Photon Collider

Thursday, 28 October 2021 17:10 (20 minutes)

Though leptoquarks have gained much attention in recent time due to their ability to explain various flavour anomalies, their existence is not confirmed yet experimentally [1]. But, we find that zeros of single photon tree level amplitude [2,3] have the potential to provide information about leptoquarks (if any) at electron-photon collider [4]. It is a well known fact that the tree-level single photon amplitudes for various electroweak processes vanish at certain regions of phase space depending on the electric charges and four-momenta of the external particles [3]. On the other hand, using the technique of laser-backscattering [5], one electron-positron collider can be transformed to an electron-photon collision machine. A small number of SM backgrounds would keep the signal very clean in this collider. We have used a PYTHIA based simulation for production of leptoquark associated with a quark at electron-photon collider to obtain the results which are very encouraging.

References

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5) I. F. Ginzburg, G. L. Kotkin, V. G. Serbo and Valery I. Telnov, *Colliding γe and $\gamma\gamma$ beams based on the Single Pass Accelerators (of Vlepp Type)*, Nucl.Instrum.Meth. 205 (1983) 47-68.

1st preferred time slot for your oral presentation

13:00-15:00 JST (6:00-8:00 CEST, 0:00-2:00 EDT, 21:00-23:00 PDT)

2nd preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

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Session Classification: V: Alternative collider modes

Track Classification: Parallel sessions: Alternative: Session V: Alternative collider modes