Contribution ID: **14** Type: **not specified**

Flavour anomalies, leptoquarks, renormalisation group fixed-points, and collider physics

Friday 21 June 2024 15:00 (40 minutes)

Leptoquark (LQ) interactions can explain the deviations between $b \to c\tau\bar{\nu}$ and $b \to s\ell^+\ell^-$ data and Standard-Model predictions.These particles are motivated by theories with quark-lepton unification which must occur at a much higher scale M_{QLU} than the masses of the leptoquark invoked to explain the flavour anomalies. The presence of such a mass gap offers the opportunity to study LQ properties from renormalisation group effects. I present infrared fixed-point solutions for leptoquark couplings and discuss their implications for flavour anomalies and collider searches. Then I present new results on radiative corrections which render the LQ couplings probed at low and high energy different.

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Session Classification: Day 4