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The Chirality-Flow Formalism for Standard Model Amplitudes

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Scattering amplitudes are often split up into their gauge ($su(N)$) and kinematic (two copies of complexified $su(2)$) components. Since the $su(N)$ gauge part is often calculated using flows of colour, it should similarly be possible to describe the $su(2) \oplus su(2)$ kinematics of an amplitude in terms of flows of chirality. In two recent papers (hep-ph:2003.05877 & hep-ph:2011.10075) we showed that this is indeed the case, introducing the chirality-flow formalism for Standard Model calculations. In the chirality-flow method (which simplifies the spinor-helicity method) Feynman diagrams can be directly written down in terms of Lorentz-invariant spinor inner products, allowing the simplest and most direct possible path from Feynman diagram to complex number. In this poster, I will introduce this method and show some examples.

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