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B-anomalies: The physics case for future colliders

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We examine simplified models for explaining RK(\) *and related measurements. At tree-level, one has the option of leptoquarks or Z's with flavour dependent couplings. One can search for either at hadron colliders, and, focussing on the Z' explanation, we show that the prospects for future searches are good, especially if the energy of the collisions is increased. We give a simple example (The Third Family Hypercharge Model) that predicts a Z' with the right couplings to explain RK()*. The model explains the hierarchical heaviness of the third family and the smallness of CKM mixing. Such models raise the exciting prospect of a direct experimental probe of physics pertinent to the fermion masses and mixings problem.

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