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Mass hierarchy and naturalness from TeV scale strong dynamics

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A non-perturbative mechanism for dynamical generation of the mass of elementary particles, both fermions and weak bosons, is presented in a simplified gauge model. Within this framework, which is under test by numerical simulations, elementary particle masses arise naturally in a certain chiral symmetry limit with a magnitude that is controlled by the strongest interaction each particle is subjected to. To accomodate top and weak boson masses, a new strong interaction with an intrinsic RGI scale of the TeV order must be postulated.

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