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Vector boson mass generation without new particles[1] BERND BERG, Florida State University — A model of only vector fields with a local U(2) symmetry is introduced for which one finds a massless U(1) photon and a massive SU(2) vector boson in the lattice regularization. Here it is shown that quantization of its classical continuum action leads to perturbative renormalization difficulties, while non-perturbative Monte Carlo calculations favor the existence of a quantum continuum limit.

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