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## Dark Gauge U(1) Symmetry for an Alternative Left-Right Model

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An alternative left-right model of quarks and leptons, where the  $SU(2)_R$  lepton doublet  $(\nu, l)_R$  is replaced with  $(n, l)_R$  so that  $n_R$  is not the Dirac mass partner of  $\nu_L$ , has been known since 1987. Previous versions assumed a global  $U(1)_S$  symmetry to allow  $n$  to be identified as a dark-matter fermion (scotino). We propose here a gauge extension by the addition of extra fermions to render the model free of gauge anomalies, and just one singlet scalar to break  $U(1)_S$ . This results in two layers of dark matter, one hidden behind the other.

This is the gauged version of the arXiv:0901.0981, arXiv:1002.0692

### Summary

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