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Self-Interacting Dark Matter Extension to the Standard Model with and Astrophysics phenomenology

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As a possible extension to the standard model, a *leptophilic* U(1) gauge boson that **violates lepton universality** and a fermionic **self-interacting dark matter** that couples to this new gauge boson can explain recent anomalies in flavour physics (like (g-2)mu) and small scale structure problems of cold dark matter (like the core-cusp problem). We discuss the parameter space in which the dark sector of the model can account for those observables.

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