New Gadget Code Description

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Abstract

This document contains the medium level detail description of the python code for generating 36k Adinkras and New Gadget values. Brief intro simple paragraph at the beginning of the document.

This document write up contains the description of the software code algorithm that is used to calculate the New Gadget for the entire BC4 Coxeter group space of 36,864 Adinkras and how it is written and executed using Python 3. Specific Python version used in calculation was Python 3.5, but the code is also compatible with Python 2.7. Software wise the code builds upon earlier developments/works by the author but with changes to the code that pertains to the final gadget calculation. To speed up Gadget calculation, multiprocessing feature has been added and is utilized within the code. The code also now produces a text output of the results which can be zip compressed for distribution/sharing of results.

Using the elemets of BC4 Coxeter group, the code $adinkra_nxn_constructorcreatesthe384Lsignper$ $4(4colors), fouropen - nodesandfourclosednodes.$

For calculating the Fermionic Holoraumy matrices the script $fx_vij_holoraumy.pyisused.Theactua$