ATLAS of Dickson Surfaces

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1 Finite Fields

2 Projective Spaces

3 Data Set of Dickson Surfaces

Here, F_i is the labelling for the cubic surfaces over $GF(2)$ from the paper [1]. $Orb-i$ is the Orbiter labelling.

$Orb-i$	F_i	$GF(2)$	$GF(4)$	$GF(8)$	$GF(16)$	$GF(32)$	$GF(64)$
0	F_{141}						
1	F_{140}						
2	F_{139}						
3	F_{136}						
4	F_{121}						
5	F_{61}						
6	F_{12}						
7	F_{134}						
8	F_{130}						
9	F_{62}						
10	F_{71}						
11	F_{33}						
12	F_{118}						
13	F_{80}						
14	F_{81}						
15	F_{21}						
16	F_{51}						
17	F_{44}						
18	F_{116}						
19	F_{55}						
20	F_3						
21	F_{31}						
22	F_{124}						
23	F_{92}						
24	F_{11}						

$Orb-i$	F_i	over $GF(2)$	$GF(4)$	$GF(8)$	$GF(16)$	$GF(32)$	$GF(64)$
25	F_{63}						
26	F_{38}						
27	F_{18}						
28	F_{1}						
29	F_{138}						
30	F_{133}						
31	F_{119}						
32	F_{131}						
33	F_{108}						
34	F_{64}						
35	F_{82}						
36	F_{56}						
37	F_{72}						
38	F_{22}						
39	F_{23}						
40	F_{137}						
41	F_{132}						
42	F_{73}						
43	F_{125}						
44	F_{115}						
45	F_{104}						
46	F_{83}						
47	F_{93}						
48	F_{57}						
49	F_{15}						

$Orb-i$	F_i	$GF(2)$	$GF(4)$	$GF(8)$	$GF(16)$	$GF(32)$	$GF(64)$
50	F_{39}						
51	F_{105}						
52	F_{40}						
53	F_{128}						
54	F_{65}						
55	F_{84}						
56	F_{85}						
57	F_{10}						
58	F_{66}						
59	F_{29}						
60	F_{48}						
61	F_{24}						
62	F_{129}						
63	F_{94}						
64	F_{95}						
65	F_{34}						
66	F_{126}						
67	F_{67}						
68	F_{96}						
69	F_{120}						
70	F_{97}						
71	F_{111}						
72	F_{112}						
73	F_{35}						
74	F_{86}						

$Orb-i$	F_i	$GF(2)$	$GF(4)$	$GF(8)$	$GF(16)$	$GF(32)$	$GF(64)$
75	F_{25}						
76	F_{36}						
77	F_{74}						
78	F_{98}						
79	F_{7}						
80	F_{45}						
81	F_{87}						
82	F_{88}						
83	F_{52}						
84	F_{46}						
85	F_{50}						
86	F_{89}						
87	F_{19}						
88	F_{53}						
89	F_{123}						
90	F_{99}						
91	F_{41}						
92	F_{13}						
93	F_{135}						
94	F_{113}						
95	F_{109}						
96	F_{26}						
97	F_{117}						
98	F_{122}						
99	F_{68}						

$Orb-i$	F_i	$GF(2)$	$GF(4)$	$GF(8)$	$GF(16)$	$GF(32)$	$GF(64)$
100	F_{90}						
101	F_{30}						
102	F_{9}						
103	F_{127}						
104	F_{100}						
105	F_{69}						
106	F_{49}						
107	F_{75}						
108	F_{58}						
109	F_{59}						
110	F_{42}						
111	F_{76}						
112	F_{32}						
113	F_{47}						
114	F_{106}						
115	F_{70}						
116	F_{101}						
117	F_{43}						
118	F_{20}						
119	F_{54}						
120	F_{77}						
121	F_{27}						
122	F_{37}						
123	F_{78}						
124	F_{91}						

$Orb-i$	F_i	$GF(2)$	$GF(4)$	$GF(8)$	$GF(16)$	$GF(32)$	$GF(64)$
125	F_{103}						
126	F_{110}						
127	F_{60}						
128	F_{79}						
129	F_4						
130	F_2						
131	F_8						
132	F_{102}						
133	F_{114}						
134	F_{17}						
135	F_6						
136	F_{16}						
137	F_5						
138	F_{28}						
139	F_{107}						
140	F_{14}						

References

[1] A. Betten, Orbiter – A program to classify discrete objects; 2018, (`https://github.com/abetten/orbiter`)

[2]

[3] F. Karaoglu, Non-Singular Cubic Surfaces with Less Than 27 Lines, *submitted to Journal of Experimental Mathematics.*