

Character Tables of Multiplicity-Free Endomorphism Rings

$G = 2.Fi_{22}.2$ (no. 4)

$H = O_8^+(2) : 2 \rightarrow (Fi_{22}.2, 10)$

rank: 20

degree: 741312

	O_1	O_2	O_3	O_4	O_5	O_6	O_7	O_8	O_9	O_{10}
$1a^+$	1	1	2	2	2	2	2	3150	3150	6300
$1a^-$	1	1	2	2	-2	-2	-2	3150	-3150	6300
$429a^+$	1	1	-1	-1	2	-1	-1	630	630	-630
$429a^-$	1	1	-1	-1	-2	1	1	630	-630	-630
$3080a^+$	1	1	2	2	2	2	2	342	342	684
$3080a^-$	1	1	2	2	-2	-2	-2	342	-342	684
$13650a^+$	1	1	2	2	2	2	2	-18	-18	-36
$13650a^-$	1	1	2	2	-2	-2	-2	-18	18	-36
$45045a^+$	1	1	2	2	2	2	2	-18	-18	-36
$45045a^-$	1	1	2	2	-2	-2	-2	-18	18	-36
$48048a^+$	1	1	-1	-1	2	-1	-1	-90	-90	90
$48048a^-$	1	1	-1	-1	-2	1	1	-90	90	90
$75075a^+$	1	1	-1	-1	2	-1	-1	54	54	-54
$75075a^-$	1	1	-1	-1	-2	1	1	54	-54	-54
$352a^+$	1	-1	1	-1	0	$1+2z3$	$1+2z3^{**}$	0	0	0
$352a^-$	1	-1	1	-1	0	$1+2z3^{**}$	$1+2z3$	0	0	0
$13728ab$	1	-1	-2	2	0	0	0	0	0	0
$48048bc$	1	-1	-2	2	0	0	0	0	0	0
$123200a^+$	1	-1	1	-1	0	$1+2z3$	$1+2z3^{**}$	0	0	0
$123200a^-$	1	-1	1	-1	0	$1+2z3^{**}$	$1+2z3$	0	0	0

	O_{11}	O_{12}	O_{13}	O_{14}	O_{15}	O_{16}	O_{17}
$1a^+$	6300	22400	22400	44800	44800	44800	44800
$1a^-$	-6300	22400	22400	44800	44800	-44800	-44800
$429a^+$	-630	2240	2240	-2240	-2240	4480	-2240
$429a^-$	630	2240	2240	-2240	-2240	-4480	2240
$3080a^+$	684	-64	-64	-128	-128	-128	-128
$3080a^-$	-684	-64	-64	-128	-128	128	128
$13650a^+$	-36	224	224	448	448	448	448
$13650a^-$	36	224	224	448	448	-448	-448
$45045a^+$	-36	-64	-64	-128	-128	-128	-128
$45045a^-$	36	-64	-64	-128	-128	128	128
$48048a^+$	90	80	80	-80	-80	160	-80
$48048a^-$	-90	80	80	-80	-80	-160	80
$75075a^+$	-54	-64	-64	64	64	-128	64
$75075a^-$	54	-64	-64	64	64	128	-64
$352a^+$	0	-2800	2800	2800	-2800	0	2800+5600z3
$352a^-$	0	-2800	2800	2800	-2800	0	2800+5600z3**
$13728ab$	0	-280	280	-560	560	0	0
$48048bc$	0	80	-80	160	-160	0	0
$123200a^+$	0	8	-8	-8	8	0	8+16z3**
$123200a^-$	0	8	-8	-8	8	0	8+16z3

	O_{18}	O_{19}	O_{20}
$1a^+$	44800	226800	226800
$1a^-$	-44800	226800	-226800
$429a^+$	-2240	0	0
$429a^-$	2240	0	0
$3080a^+$	-128	-648	-648
$3080a^-$	128	-648	648
$13650a^+$	448	-1296	-1296
$13650a^-$	-448	-1296	1296
$45045a^+$	-128	432	432
$45045a^-$	128	432	-432
$48048a^+$	-80	0	0
$48048a^-$	80	0	0
$75075a^+$	64	0	0
$75075a^-$	-64	0	0
$352a^+$	2800+5600z3**	0	0
$352a^-$	2800+5600z3	0	0
$13728ab$	0	0	0
$48048bc$	0	0	0
$123200a^+$	8+16z3	0	0
$123200a^-$	8+16z3**	0	0

$$z_3 = (-1 + \sqrt{-3})/2$$

$$z_3^{**} = (-1 - \sqrt{-3})/2$$

References

- [Mül08] J. Müller. On the multiplicity-free actions of the sporadic simple groups. *J. Algebra*, 320:910–926, 2008.