

THE CENTER OF HECKE-CLIFFORD SUPERALGEBRA

Got 8 basis.

Got basis 1: 1,

Got basis 2: T_1 ,

Got basis 3: c_1 ,

Got basis 4: c_2 ,

Got basis 5: T_1c_1 ,

Got basis 6: c_1c_2 ,

Got basis 7: T_1c_2 ,

Got basis 8: $T_1c_1c_2$,

Assume z is in center, and

$$z = a_1 + a_2T_1 + a_3c_1 + a_4c_2 + a_5T_1c_1 + a_6c_1c_2 + a_7T_1c_2 + a_8T_1c_1c_2$$

Round 2, Calculating $T_1z = zT_1$, We got 8 equations .

Totally 2 solutions, dup count: 0.

$$a_8 = 0$$

$$a_6 = 0$$

Center:

$$z = a_1 + a_2T_1 + a_3c_1 + a_4c_2 + a_5T_1c_1 + a_7T_1c_2$$

Round 3, Calculating $c_1z = zc_1$, We got 5 equations .

Totally 3 solutions, dup count: 0.

$$a_8 = 0$$

$$a_6 = 0$$

$$a_2 = 0$$

Center:

$$z = a_1 + a_3c_1 + a_4c_2 + a_5T_1c_1 + a_7T_1c_2$$

Round 4, Calculating $c_2z = zc_2$, We got 5 equations .

Totally 4 solutions, dup count: 0.

$$a_8 = 0$$

$$a_6 = 0$$

$$a_2 = 0$$

$$a_3 = 0$$

Center:

$$z = a_1 + a_4c_2 + a_5T_1c_1 + a_7T_1c_2$$

Round 5, Calculating $T_1c_1z = zT_1c_1$, We got 5 equations .
Totally 5 solutions, dup count: 0.

$$a_8 = 0$$

$$a_6 = 0$$

$$a_2 = 0$$

$$a_3 = 0$$

$$a_4 = a_7 - qa_7$$

Center:

$$z = a_1 + a_7c_2 - qa_7c_2 + a_5T_1c_1 + a_7T_1c_2$$

Round 6, Calculating $c_1c_2z = zc_1c_2$, We got 4 equations .
Totally 6 solutions, dup count: 0.

$$a_8 = 0$$

$$a_6 = 0$$

$$a_2 = 0$$

$$a_3 = 0$$

$$a_4 = a_7 - qa_7$$

$$a_5 = a_7$$

Center:

$$z = a_1 + a_7c_2 - qa_7c_2 + a_7T_1c_1 + a_7T_1c_2$$

Round 7, Calculating $T_1c_2z = zT_1c_2$, We got 5 equations .
Totally 6 solutions, dup count: 1.

$$\begin{aligned}
a_8 &= 0 \\
a_6 &= 0 \\
a_2 &= 0 \\
a_3 &= 0 \\
a_4 &= a_7 - qa_7 \\
a_5 &= a_7
\end{aligned}$$

Center:

$$z = a_1 + a_7c_2 - qa_7c_2 + a_7T_1c_1 + a_7T_1c_2$$

Round 8, Calculating $T_1c_1c_2z = zT_1c_1c_2$, We got 5 equations .
Totally 6 solutions, dup count: 2.

$$\begin{aligned}
a_8 &= 0 \\
a_6 &= 0 \\
a_2 &= 0 \\
a_3 &= 0 \\
a_4 &= a_7 - qa_7 \\
a_5 &= a_7
\end{aligned}$$

Center:

$$z = a_1 + a_7c_2 - qa_7c_2 + a_7T_1c_1 + a_7T_1c_2$$

Solved, Totally 6 solutions.

$$\begin{aligned}
a_8 &= 0 \\
a_6 &= 0 \\
a_2 &= 0 \\
a_3 &= 0 \\
a_4 &= a_7 - qa_7 \\
a_5 &= a_7
\end{aligned}$$

Center:

$$z = a_1 + a_7c_2 - qa_7c_2 + a_7T_1c_1 + a_7T_1c_2$$

Center:

$$\begin{aligned}
z &= 1 \cdot a_1 \\
&\quad + (T_1 c_1 + T_1 c_2 + c_2 - q c_2) \cdot a_7
\end{aligned}$$