## Table 2

| Algebra | the highest long root | the highest short root |
|---|---|---|
| $A_l, l \geq 1$ | $\lambda_1 + \lambda_l$ | |
| $B_l, l \geq 3$ | $\lambda_2$ | $\lambda_1$ |
| $C_l, l \geq 2$ | $2\lambda_1$ | $\lambda_2$ |
| $D_l, l \geq 4$ | $\lambda_2$ | |
| $E_6$ | $\lambda_2$ | |
| $E_7$ | $\lambda_1$ | |
| $E_8$ | $\lambda_8$ | |
| $F_4$ | $\lambda_1$ | $\lambda_4$ |
| $G_2$ | $\lambda_2$ | $\lambda_1$ |

## Table 3

| | |
|---|---|
| $A_l, l \geq 1$ | $\wedge^m V(\lambda_1) \cong V(\lambda_m), 1 \leq m \leq l$ |
| $B_l, l \geq 3$ | $\wedge^m V(\lambda_1) \cong V(\lambda_m), 1 \leq m \leq l-1$<br>$\wedge^l V(\lambda_1) \cong V(2\lambda_l)$ |
| $C_l, l \geq 2$ | $\wedge^m V(\lambda_1) \cong V(\lambda_m) \oplus \wedge^{m-2} V(\lambda_1), 2 \leq m \leq l$ |
| $D_l, l \geq 4$ | $\wedge^m V(\lambda_1) \cong V(\lambda_m), 1 \leq m \leq l-2$<br>$\wedge^{l-1} V(\lambda_1) \cong V(\lambda_{l-1} \oplus \lambda_l)$<br>$\wedge^l V(\lambda_1) \cong V(2\lambda_{l-1}) \oplus V(2\lambda_l)$ |

**Remark**: In all tables above $l$ denotes the rank of the Lie algebra. Table 1 and Table 3 can be found in [7] and [17] respectively. The highest long root and the highest short root in Table 2 are given in [7] by the simple roots. In [7] one can also find the type $B_2$. But it turns out that $B_2$ is the same thing as $C_2$.