

### Structure constants of the Lie Algebra:

$$(0, e^{16}, 0, 0, 0, 0)$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$(J + P)/2, \quad d(e^{234}) = e^{1346}$$

$$E, \quad d(e^{235}) = e^{1356}$$

$$G, \quad d(e^{245}) = e^{1456}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{125}, e^{126}, e^{134}, e^{135}, e^{136}, e^{145}, e^{146}, e^{156}, e^{236}, e^{246}, e^{256}, e^{345}, e^{346}, e^{356}, e^{456}, \}$$

### Derivatives of 2-forms

$$d(e^{23}) = (-1.0)e^{136}, \quad B$$

$$d(e^{24}) = (-1.0)e^{146}, \quad D$$

$$d(e^{25}) = (-1.0)e^{156}, \quad (O - I)/2$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{15}, e^{16}, e^{26}, e^{34}, e^{35}, e^{36}, e^{45}, e^{46}, e^{56}, \}$$

### $d\Lambda d$ of 3-forms

### Structure constants of the Lie Algebra:

$$(0, e^{14}, 0, 0, e^{36}, 0)$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$(M + S)/2, \quad d(e^{125}) = e^{1236}$$

$$E, \quad d(e^{235}) = (-1.0)e^{1345}$$

$$C, \quad d(e^{145}) = (-1.0)e^{1346}$$

$$F, \quad d(e^{236}) = (-1.0)e^{1346}$$

$$(P - J)/2, \quad d(e^{256}) = e^{1456}$$

$$G, \quad d(e^{245}) = (-1.0)e^{2346}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{126}, e^{134}, e^{135}, e^{136}, e^{146}, e^{156}, e^{234}, e^{246}, e^{345}, e^{346}, e^{356}, e^{456}, \}$$

### Derivatives of 2-forms

$$d(e^{23}) = (-1.0)e^{134}, \quad (I + O)/2$$

$$d(e^{15}) = (-1.0)e^{136}, \quad B$$

$$d(e^{25}) = e^{145} + (-1.0)e^{236}, \quad CF$$

$$d(e^{26}) = e^{146}, \quad D$$

$$d(e^{45}) = e^{346}, \quad (T - N)/2$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{16}, e^{24}, e^{34}, e^{35}, e^{36}, e^{46}, e^{56}, \}$$

### $d\Lambda d$ of 3-forms

$$E, \quad d\Lambda d(e^{235}) = e^{136} \quad B$$

$$G, \quad d\Lambda d(e^{245}) = (-1.0)e^{146} \quad D$$

### Structure constants of the Lie Algebra:

$$(0, e^{13}, 0, 0, e^{46}, 0)$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$(M + S)/2, \quad d(e^{125}) = e^{1246}$$

$$G, \quad d(e^{245}) = e^{1345}$$

$$A, \quad d(e^{135}) = e^{1346}$$

$$H, \quad d(e^{246}) = e^{1346}$$

$$(P - J)/2, \quad d(e^{256}) = e^{1356}$$

$$E, \quad d(e^{235}) = e^{2346}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{126}, e^{134}, e^{136}, e^{145}, e^{146}, e^{156}, e^{234}, e^{236}, e^{345}, e^{346}, e^{356}, e^{456}, \}$$

### Derivatives of 2-forms

$$d(e^{24}) = e^{134}, \quad (I + O)/2$$

$$d(e^{25}) = e^{135} + (-1.0)e^{246}, \quad AH$$

$$d(e^{26}) = e^{136}, \quad B$$

$$d(e^{15}) = (-1.0)e^{146}, \quad D$$

$$d(e^{35}) = (-1.0)e^{346}, \quad (T - N)/2$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{16}, e^{23}, e^{34}, e^{36}, e^{45}, e^{46}, e^{56}, \}$$

### $d\Lambda d$ of 3-forms

$$E, \quad d\Lambda d(e^{235}) = e^{136} \quad B$$

$$G, \quad d\Lambda d(e^{245}) = (-1.0)e^{146} \quad D$$

### Structure constants of the Lie Algebra:

$$(0, (-1.0)e^{13}, 0, 0, e^{16}, 0)$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$E, \quad d(e^{235}) = e^{1236}$$

$$G, \quad d(e^{245}) = e^{1246} + (-1.0)e^{1345}$$

$$H, \quad d(e^{246}) = (-1.0)e^{1346}$$

$$(S - M)/2, \quad d(e^{345}) = e^{1346}$$

$$(P - J)/2, \quad d(e^{256}) = (-1.0)e^{1356}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{125}, e^{126}, e^{134}, e^{135}, e^{136}, e^{145}, e^{146}, e^{156}, e^{234}, e^{236}, e^{346}, e^{356}, e^{456}, \}$$

### Derivatives of 2-forms

$$d(e^{25}) = e^{126} + (-1.0)e^{135}, \quad (N + T)/2A$$

$$d(e^{24}) = (-1.0)e^{134}, \quad (I + O)/2$$

$$d(e^{26}) = (-1.0)e^{136}, \quad B$$

$$d(e^{35}) = e^{136}, \quad B$$

$$d(e^{45}) = e^{146}, \quad D$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{15}, e^{16}, e^{23}, e^{34}, e^{36}, e^{46}, e^{56}, \}$$

### $d\Lambda d$ of 3-forms

### Structure constants of the Lie Algebra:

$$(0, 0, 0, e^{15}, 0, e^{13})$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$H, \quad d(e^{246}) = (-1.0)e^{1234} + e^{1256}$$

$$(P - J)/2, \quad d(e^{256}) = (-1.0)e^{1235}$$

$$(J + P)/2, \quad d(e^{234}) = e^{1235}$$

$$(R - L)/2, \quad d(e^{456}) = e^{1345}$$

$$(T - N)/2, \quad d(e^{346}) = e^{1356}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{125}, e^{126}, e^{134}, e^{135}, e^{136}, e^{145}, e^{146}, e^{156}, e^{235}, e^{236}, e^{245}, e^{345}, e^{356}, \}$$

### Derivatives of 2-forms

$$d(e^{26}) = e^{123}, \quad (K + Q)/2$$

$$d(e^{24}) = e^{125}, \quad (M + S)/2$$

$$d(e^{46}) = (-1.0)e^{134} + e^{156}, \quad (I + O)/2(O - I)/2$$

$$d(e^{56}) = (-1.0)e^{135}, \quad A$$

$$d(e^{34}) = e^{135}, \quad A$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{15}, e^{16}, e^{23}, e^{25}, e^{35}, e^{36}, e^{45}, \}$$

### $d\Lambda d$ of 3-forms

$$H, \quad d\Lambda d(e^{246}) = (-2.0)e^{135} \quad A$$

### Structure constants of the Lie Algebra:

$$(0, e^{13}, 0, 0, e^{16}, 0)$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$E, \quad d(e^{235}) = e^{1236}$$

$$G, \quad d(e^{245}) = e^{1246} + e^{1345}$$

$$H, \quad d(e^{246}) = e^{1346}$$

$$(S - M)/2, \quad d(e^{345}) = e^{1346}$$

$$(P - J)/2, \quad d(e^{256}) = e^{1356}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{125}, e^{126}, e^{134}, e^{135}, e^{136}, e^{145}, e^{146}, e^{156}, e^{234}, e^{236}, e^{346}, e^{356}, e^{456}, \}$$

### Derivatives of 2-forms

$$d(e^{25}) = e^{126} + e^{135}, \quad (N + T)/2A$$

$$d(e^{24}) = e^{134}, \quad (I + O)/2$$

$$d(e^{26}) = e^{136}, \quad B$$

$$d(e^{35}) = e^{136}, \quad B$$

$$d(e^{45}) = e^{146}, \quad D$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{15}, e^{16}, e^{23}, e^{34}, e^{36}, e^{46}, e^{56}, \}$$

### $d\Lambda d$ of 3-forms

### Structure constants of the Lie Algebra:

$$(0, (-1.0)e^{14} + e^{36}, 0, e^{13} + e^{16}, 0, 0)$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$G, \quad d(e^{245}) = e^{1235} + (-1.0)e^{1256} + e^{3456}$$

$$(J + P)/2, \quad d(e^{234}) = e^{1236}$$

$$H, \quad d(e^{246}) = e^{1236}$$

$$E, \quad d(e^{235}) = e^{1345}$$

$$(L + R)/2, \quad d(e^{124}) = e^{1346}$$

$$F, \quad d(e^{236}) = e^{1346}$$

$$(S - M)/2, \quad d(e^{345}) = (-1.0)e^{1356}$$

$$(M + S)/2, \quad d(e^{125}) = e^{1356}$$

$$(R - L)/2, \quad d(e^{456}) = e^{1356}$$

$$(P - J)/2, \quad d(e^{256}) = (-1.0)e^{1456}$$

$$Ker(d^3) \supset \{e^{123}, e^{126}, e^{134}, e^{135}, e^{136}, e^{145}, e^{146}, e^{156}, e^{346}, e^{356}, \}$$

### Derivatives of 2-forms

$$d(e^{24}) = e^{123} + e^{126} + (-1.0)e^{346}, \quad (K + Q)/2(N + T)/2(T - N)/2$$

$$d(e^{23}) = e^{134}, \quad (I + O)/2$$

$$d(e^{45}) = e^{135} + (-1.0)e^{156}, \quad A(O - I)/2$$

$$d(e^{12}) = (-1.0)e^{136}, \quad B$$

$$d(e^{34}) = e^{136}, \quad B$$

$$d(e^{46}) = e^{136}, \quad B$$

$$d(e^{25}) = (-1.0)e^{145} + (-1.0)e^{356}, \quad C(Q - K)/2$$

$$d(e^{26}) = (-1.0)e^{146}, \quad D$$

$$Ker(d^2) \supset \{e^{13}, e^{14}, e^{15}, e^{16}, e^{35}, e^{36}, e^{56}, \}$$

### $d\Lambda d$ of 3-forms

$$G, \quad d\Lambda d(e^{245}) = 2.0 \, e^{136} \, B$$

### Structure constants of the Lie Algebra:

$$(0, 0, e^{16}, (-1.0)e^{13}, e^{14} + (-1.0)e^{36}, 0)$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$E, \quad d(e^{235}) = e^{1234} + (-1.0)e^{1256}$$

$$G, \quad d(e^{245}) = (-1.0)e^{1235} + e^{2346}$$

$$(M + S)/2, \quad d(e^{125}) = (-1.0)e^{1236}$$

$$H, \quad d(e^{246}) = (-1.0)e^{1236}$$

$$(J + P)/2, \quad d(e^{234}) = (-1.0)e^{1246}$$

$$(P - J)/2, \quad d(e^{256}) = e^{1246}$$

$$C, \quad d(e^{145}) = e^{1346}$$

$$(Q - K)/2, \quad d(e^{356}) = e^{1346}$$

$$(R - L)/2, \quad d(e^{456}) = (-1.0)e^{1356}$$

$$(S - M)/2, \quad d(e^{345}) = e^{1456}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{126}, e^{134}, e^{135}, e^{136}, e^{146}, e^{156}, e^{236}, e^{346}, \}$$

### Derivatives of 2-forms

$$d(e^{24}) = (-1.0)e^{123}, \quad (K + Q)/2$$

$$d(e^{25}) = e^{124} + e^{236}, \quad (L + R)/2F$$

$$d(e^{23}) = e^{126}, \quad (N + T)/2$$

$$d(e^{35}) = e^{134} + (-1.0)e^{156}, \quad (I + O)/2(O - I)/2$$

$$d(e^{45}) = (-1.0)e^{135} + (-1.0)e^{346}, \quad A(T - N)/2$$

$$d(e^{46}) = (-1.0)e^{136}, \quad B$$

$$d(e^{15}) = e^{136}, \quad B$$

$$d(e^{34}) = (-1.0)e^{146}, \quad D$$

$$d(e^{56}) = e^{146}, \quad D$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{16}, e^{26}, e^{36}, \}$$



*dΛd* of 3-forms

$$G, \quad d\Lambda d(e^{245}) = (-1.0)e^{134} + e^{156} \quad (I + O)/2(O - I)/2$$

$$(P - J)/2, \quad d\Lambda d(e^{256}) = (-1.0)e^{136} \quad B$$

$$(J + P)/2, \quad d\Lambda d(e^{234}) = e^{136} \quad B$$

$$E, \quad d\Lambda d(e^{235}) = (-2.0)e^{146} \quad D$$

### Structure constants of the Lie Algebra:

$$(0, 0, e^{14}, e^{15}, 0, e^{13})$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$H, \quad d(e^{246}) = (-1.0)e^{1234} + e^{1256}$$

$$(P - J)/2, \quad d(e^{256}) = (-1.0)e^{1235}$$

$$(J + P)/2, \quad d(e^{234}) = e^{1235}$$

$$E, \quad d(e^{235}) = e^{1245}$$

$$F, \quad d(e^{236}) = e^{1246}$$

$$(R - L)/2, \quad d(e^{456}) = e^{1345}$$

$$(T - N)/2, \quad d(e^{346}) = e^{1356}$$

$$(Q - K)/2, \quad d(e^{356}) = e^{1456}$$

$$Ker(d^3) \supset \{e^{123}, e^{124}, e^{125}, e^{126}, e^{134}, e^{135}, e^{136}, e^{145}, e^{146}, e^{156}, e^{245}, e^{345}, \}$$

### Derivatives of 2-forms

$$d(e^{26}) = e^{123}, \quad (K + Q)/2$$

$$d(e^{23}) = e^{124}, \quad (L + R)/2$$

$$d(e^{24}) = e^{125}, \quad (M + S)/2$$

$$d(e^{46}) = (-1.0)e^{134} + e^{156}, \quad (I + O)/2(O - I)/2$$

$$d(e^{56}) = (-1.0)e^{135}, \quad A$$

$$d(e^{34}) = e^{135}, \quad A$$

$$d(e^{35}) = e^{145}, \quad C$$

$$d(e^{36}) = e^{146}, \quad D$$

$$Ker(d^2) \supset \{e^{12}, e^{13}, e^{14}, e^{15}, e^{16}, e^{25}, e^{45}, \}$$

### $d\Lambda d$ of 3-forms

$$F, \quad d\Lambda d(e^{236}) = (-1.0)e^{134} + e^{156} \quad (I + O)/2(O - I)/2$$

$$H, \quad d\Lambda d(e^{246}) = (-2.0)e^{135} \quad A$$

$$(P - J)/2, \quad d\Lambda d(e^{256}) = (-1.0)e^{145} \quad C$$

$$(J + P)/2, \quad d\Lambda d(e^{234}) = e^{145} \quad C$$

### Structure constants of the Lie Algebra:

$$(0, e^{35}, 0, \lambda e^{15}, 0, (-1 + \lambda)e^{13})$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$H, d(e^{246}) = (1.0 - \lambda)e^{1234} + \lambda e^{1256} + (-1.0)e^{3456}$$

$$(J + P)/2, d(e^{234}) = \lambda e^{1235}$$

$$(P - J)/2, d(e^{256}) = (1.0 - \lambda)e^{1235}$$

$$(L + R)/2, d(e^{124}) = e^{1345}$$

$$(R - L)/2, d(e^{456}) = (-1 + \lambda)e^{1345}$$

$$(N + T)/2, d(e^{126}) = (-1.0)e^{1356}$$

$$(T - N)/2, d(e^{346}) = \lambda e^{1356}$$

$$Ker(d^3) \supset \{e^{123}, e^{125}, e^{134}, e^{135}, e^{136}, e^{145}, e^{146}, e^{156}, e^{235}, e^{236}, e^{245}, e^{345}, e^{356}, \}$$

### Derivatives of 2-forms

$$d(e^{26}) = (-1.0 + \lambda)e^{123} + e^{356}, (K + Q)/2(Q - K)/2$$

$$d(e^{24}) = \lambda e^{125} + (-1.0)e^{345}, (M + S)/2(S - M)/2$$

$$d(e^{46}) = (1.0 - \lambda)e^{134} + \lambda e^{156}, (I + O)/2(O - I)/2$$

$$d(e^{12}) = (-1.0)e^{135}, A$$

$$d(e^{34}) = \lambda e^{135}, A$$

$$d(e^{56}) = (1.0 - \lambda)e^{135}, A$$

$$Ker(d^2) \supset \{e^{13}, e^{14}, e^{15}, e^{16}, e^{23}, e^{25}, e^{35}, e^{36}, e^{45}, \}$$

### $d\Lambda d$ of 3-forms

$$H, d\Lambda d(e^{246}) = (-1.0 - \lambda^2 + (1.0 - \lambda)(-1 + \lambda))e^{135} A$$

### Structure constants of the Lie Algebra:

$$(0, (-1.0)e^{13} + ((2.0)\frac{\lambda}{1+\lambda^2})e^{35}, 0, ((2.0)\frac{\lambda}{1+\lambda^2})e^{15}, 0, (\frac{1}{1+\lambda^2})e^{35})$$

### Symplectic form

$$\omega = e^{12} + e^{34} + e^{56}$$

### Derivatives of 3-forms

$$(N + T)/2, \quad d(e^{126}) = (\frac{1}{1+\lambda^2})e^{1235} + (-(2.0)\frac{\lambda}{1+\lambda^2})e^{1356}$$

$$(J + P)/2, \quad d(e^{234}) = ((2.0)\frac{\lambda}{1+\lambda^2})e^{1235}$$

$$H, \quad d(e^{246}) = ((2.0)\frac{\lambda}{1+\lambda^2})e^{1256} + (-1.0)e^{1346} + (-\frac{1}{1+\lambda^2})e^{2345} + (-(2.0)\frac{\lambda}{1+\lambda^2})e^{3456}$$

$$(L + R)/2, \quad d(e^{124}) = ((2.0)\frac{\lambda}{1+\lambda^2})e^{1345}$$

$$D, \quad d(e^{146}) = (-\frac{1}{1+\lambda^2})e^{1345}$$

$$G, \quad d(e^{245}) = (-1.0)e^{1345}$$

$$(P - J)/2, \quad d(e^{256}) = (-1.0)e^{1356}$$

$$(T - N)/2, \quad d(e^{346}) = ((2.0)\frac{\lambda}{1+\lambda^2})e^{1356}$$

$$Ker(d^3) \supset \{e^{123}, e^{125}, e^{134}, e^{135}, e^{136}, e^{145}, e^{156}, e^{235}, e^{236}, e^{345}, e^{356}, e^{456}, \}$$

### Derivatives of 2-forms

$$d(e^{24}) = ((2.0)\frac{\lambda}{1+\lambda^2})e^{125} + (-1.0)e^{134} + (-(2.0)\frac{\lambda}{1+\lambda^2})e^{345}, \quad (M + S)/2(I + O)/2(S - M)/2$$

$$d(e^{12}) = (-(2.0)\frac{\lambda}{1+\lambda^2})e^{135}, \quad A$$

$$d(e^{16}) = (-\frac{1}{1+\lambda^2})e^{135}, \quad A$$

$$d(e^{25}) = (-1.0)e^{135}, \quad A$$

$$d(e^{34}) = ((2.0)\frac{\lambda}{1+\lambda^2})e^{135}, \quad A$$

$$d(e^{26}) = (-1.0)e^{136} + (-\frac{1}{1+\lambda^2})e^{235} + ((2.0)\frac{\lambda}{1+\lambda^2})e^{356}, \quad BE(Q - K)/2$$

$$d(e^{46}) = ((2.0)\frac{\lambda}{1+\lambda^2})e^{156} + (\frac{1}{1+\lambda^2})e^{345}, \quad (O - I)/2(S - M)/2$$

$$Ker(d^2) \supset \{e^{13}, e^{14}, e^{15}, e^{23}, e^{35}, e^{36}, e^{45}, e^{56}, \}$$

### $d\Lambda d$ of 3-forms

$$H, \quad d\Lambda d(e^{246}) = (-(8.0)\frac{\lambda^2}{1+\lambda^2} + 2\frac{1}{1+\lambda^2})e^{135} \quad A$$