

Geometrische Mechanik

13. Verify that

$$\frac{1}{4I_1} \begin{pmatrix} 0 & 0 & 0 & -a^2 \\ 0 & 0 & a^2 & 0 \\ 0 & 4 & 0 & -4a \\ -4 & 0 & 4a & 0 \end{pmatrix} = \frac{1}{4I_1} \left[\begin{pmatrix} 0 & -2a & 0 & 0 \\ 2a & 0 & 0 & 0 \\ 0 & 0 & 0 & -2a \\ 0 & 0 & 2a & 0 \end{pmatrix} + \begin{pmatrix} 0 & 2a & 0 & -a^2 \\ -2a & 0 & a^2 & 0 \\ 0 & 4 & 0 & -2a \\ -4 & 0 & 2a & 0 \end{pmatrix} \right]$$

is the decomposition into Jordan normal form.

14. Show that $\{\mu_3, \ell_3\} = 0$.