

$$\begin{aligned}
 (a_{11} - \lambda_\beta) c_{1\beta} + a_{12} c_{2\beta} + \dots + a_{1n} c_{n\beta} &= 0 \\
 \vdots & \\
 a_{n1} c_{1\beta} + \dots + (a_{nn} - \lambda_\beta) c_{n\beta} &= 0.
 \end{aligned}$$

Die A_β, B_β sind die Integrationskonstanten des Systems. Sie sind kanonische Konstanten, d.h. sie genügen einer Differentialbeziehung von der Form:

$$(y dx) - (C dc) = d\Omega + \mathcal{J} dt$$

Denn hier ist

$$\begin{aligned}
 \sum_x y_x dx_x &= \sum_x p_x dq_x \\
 &= \frac{1}{2} \sum_x (d(p_x q_x) - q_x dp_x + p_x dq_x) \\
 &= \frac{1}{2} \sum_x d(x_x y_x) + \frac{1}{2} \sum_\beta A_\beta^2 \sin^2 W_\beta dW_\beta + \frac{1}{2} \sum_\beta A_\beta^2 \cos^2 W_\beta dW_\beta \\
 &\quad \text{wo } W_\beta = s_\beta t + B_\beta \text{ ist.} \\
 &= \frac{1}{2} \sum_x d(x_x y_x) + \frac{1}{2} \sum_\beta s_\beta A_\beta^2 dt + \frac{1}{2} \sum_\beta A_\beta^2 dB_\beta
 \end{aligned}$$

Da aber

$$\mathcal{J} = \frac{1}{2} \sum_\beta s_\beta (q_\beta^2 + p_\beta^2) = \frac{1}{2} \sum_\beta s_\beta A_\beta^2 \text{ ist.}$$