$$\theta(t) = 2\arcsin\left\{\sin\frac{\theta_0}{2}\,\mathrm{sn}(u,k)\right\} \tag{1}$$

$$k = \sin^2\frac{\theta_0}{2} \tag{2}$$

$$u = K\left(\sin^2\frac{\theta_0}{2}\right) - \omega_0 t \tag{3}$$

$$\mathrm{sn}(u,k) = \frac{\vartheta(0,\tau)}{\vartheta_{10}(0,\tau)}\,\frac{\vartheta_{10}(u\,\vartheta(0,\tau)^{-2},\tau)}{\vartheta_{01}(u\,\vartheta(0,\tau)^{-2},\tau)} \tag{4}$$

$$\vartheta(z,\tau) = \sum_{n=-\infty}^{\infty}\exp(\pi i n^2\tau + 2\pi i n z) \tag{5}$$

$$\vartheta_{01}(z,\tau) = \vartheta(z+\frac{1}{2},\tau) \tag{6}$$

$$\vartheta_{10}(z,\tau) = \exp(\frac{1}{4}\pi i\tau + \pi i z)\vartheta(z+\frac{1}{2}\tau,\tau) \tag{7}$$

$$K(m) = \int_0^1 \frac{dz}{\sqrt{(1-z^2)(1-mz^2)}} \tag{8}$$