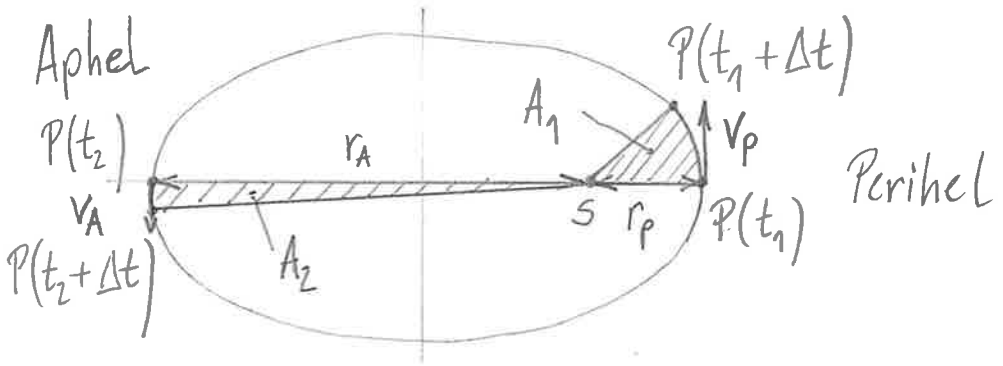
Zusammenhang DIES & Kepler II



m... Masse des Planeten

Kepler II: $A_1 = A_2$

$$\frac{r_P \cdot v_P \cdot \Delta t}{2} = \frac{r_A \cdot v_A \cdot \Delta t}{2} \quad | \cdot 2 \; | : \Delta t$$

$$r_P \cdot v_P = r_A \cdot v_A \quad | \cdot m$$

WW: $v = \omega \cdot r$, dh.: $v_P = \omega_P \cdot r_P$ & $v_A = \omega_A \cdot r_A$

$$m \cdot r_P \omega_P \cdot r_P = m \cdot r_A \cdot \omega_A \cdot r_A$$

$$\underbrace{m r_P^2}_{I_P} \cdot \omega_P = \underbrace{m r_A^2}_{I_A} \cdot \omega_A$$

$$\underbrace{I_P \cdot \omega_P}_{L_P} = \underbrace{I_A \cdot \omega_A}_{L_A}$$

$$L_P = L_A$$

bzw. $L = \text{const.}$

$\Rightarrow$ Kepler II $\triangleq$ DIES