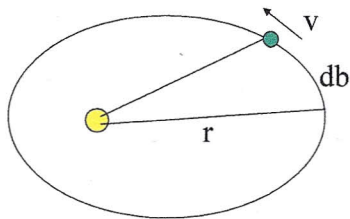


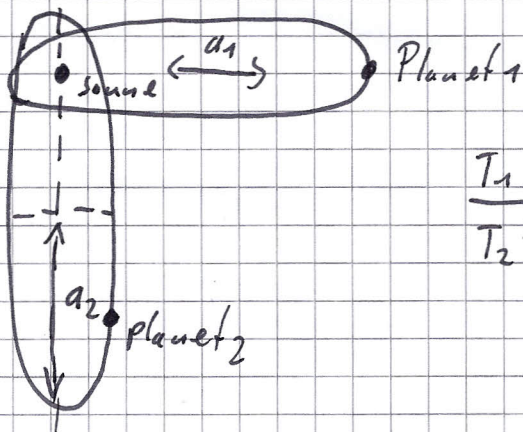
Herleitung des 2. KEPLERSches GESETZ aus dem Impulserhaltungssatz



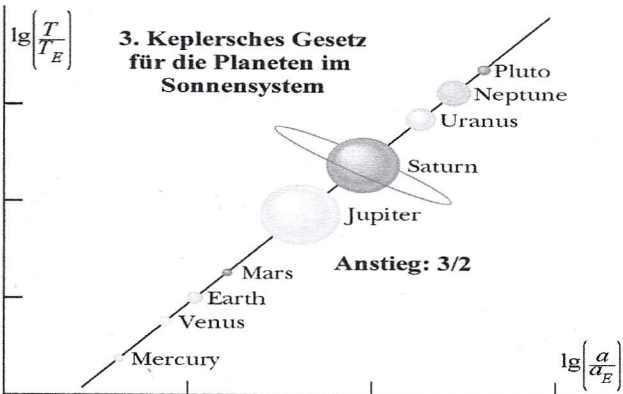
$$p = mv = \text{const.} \Rightarrow L = J\omega = \text{const.} \Rightarrow (mr^2) \dot{\varphi} = \text{const.} \Rightarrow r v = \text{const.}$$

$$v = db/dt \Rightarrow r db = \text{const.}$$

3. Keplersches Gesetz



$$\frac{T_1^2}{T_2^2} = \frac{a_1^3}{a_2^3}$$



modifizierte Grafik aus D. Halliday, R. Resnick, J. Walker, Physik

$$\left(\frac{a}{a_E}\right)^3 = \left(\frac{T}{T_E}\right)^2 \quad \lg\left(\frac{T}{T_E}\right) = \frac{3}{2} \lg\left(\frac{a}{a_E}\right)$$