

Aufgabe

Auflösung

$$-\frac{\sin \beta}{2 \cos \beta} - \frac{3}{2} \operatorname{Ln} \operatorname{tg} \left(\frac{\pi}{4} + \frac{\alpha}{2} \right) + \frac{3}{2} \operatorname{Ln} \operatorname{tg} \left(\frac{\pi}{4} + \frac{\beta}{2} \right) \Bigg\}.$$

$$\text{mit } A = \frac{(nc^4)g}{81gw}, \quad C = b - \frac{(B-b)e}{C-e}$$

$$D = \frac{d}{3w} \frac{B-b}{C-e} \text{ ist.}$$

Sei man nun wieder die Ableitung der
 Kugelmulle in Zukunft, so ist das in
 bezug bleibende Konstruktionsmaß das
 Essensmaß, wenn g das Gewicht des
 Kugels bezugsmaß mit $H = \frac{(nc^4)g}{81gw}$ ist,

$$\begin{aligned} P &= nA \left\{ C \left[\cos \alpha - \cos \beta + \frac{(1 + \cos \alpha^2) \cos \alpha}{2 \sin \alpha^4} \right. \right. \\ &\quad \left. \left. - \frac{(1 + \cos \beta^2) \cos \beta}{2 \sin \beta^4} + \frac{3}{2} \operatorname{Ln} \operatorname{tg} \frac{1}{2} \alpha \right. \right. \\ &\quad \left. \left. - \frac{3}{2} \operatorname{Ln} \operatorname{tg} \frac{1}{2} \beta \right] + D \left[\frac{2}{\sin \alpha} - \frac{2}{\sin \beta} \right. \right. \\ &\quad \left. \left. + \frac{4}{3 \sin \alpha^3} - \frac{4}{3 \sin \beta^3} + \dots \right] - \frac{grgw}{f} \right. \\ &\quad \left. - \frac{2}{3} \frac{grwnH}{f} \left[\left(\frac{1}{\sin \alpha^2 \cos \alpha} - \frac{1}{\sin \beta^2 \cos \beta} \right) \right. \right. \\ &\quad \left. \left. - \frac{2}{3} \frac{grwnH}{f} \left[\left(\frac{1}{\sin \alpha^2 \cos \alpha} - \frac{1}{\sin \beta^2 \cos \beta} \right) \right. \right. \right. \\ &\quad \left. \left. \frac{1}{\sin \alpha^2 \cos \beta} - \frac{2 \cos \alpha}{\sin \alpha^2} + \frac{2 \cos \beta}{\sin \beta^2} \right. \right. \\ &\quad \left. \left. + 2 \operatorname{Ln} \operatorname{tg} \frac{1}{2} \beta \right] + D \left[\frac{\sin \alpha}{2 \cos \alpha^2} - \frac{\sin \beta}{2 \cos \beta^2} \right. \right. \end{aligned}$$