

ψ

(r4.29)

$$\frac{4^{\frac{1}{n}} \rho \sqrt{\pi} \left(1 + \rho^{2n} - 2 \rho^n \cos[n\varphi]\right)^{-1/n} \text{Log}[\rho]^4}{\Gamma\left[\frac{1}{2} - \frac{1}{n}\right] \Gamma\left[1 + \frac{1}{n}\right]}$$

 $\partial\psi/\partial r$

(r4.30)

$$-\frac{4^{\frac{1}{n}} \sqrt{\pi} \left(1 + \rho^{2n} - 2 \rho^n \cos[n\varphi]\right)^{-\frac{1+n}{n}} \left(-4 + 8 \rho^n \cos[n\varphi] + \rho^{2n} (-4 + \text{Log}[\rho]) - \text{Log}[\rho]\right) \text{Log}[\rho]^3}{\Gamma\left[\frac{1}{2} - \frac{1}{n}\right] \Gamma\left[1 + \frac{1}{n}\right]}$$