

$$dr(\theta, \phi) = R \sum_{l=0}^{\infty} \sum_{m=0}^l \tilde{P}_{l,m}(\cos \theta) (C_{lm} \cos(m\phi) + S_{lm}(\sin m\phi)) \frac{h'_l}{1 + k'_l}$$

$$dn(\theta, \phi) = R \sum_{l=0}^{\infty} \sum_{m=0}^l \frac{\partial \tilde{P}_{l,m}}{\partial \phi}(\cos \theta) (C_{lm} \cos(m\phi) + S_{lm}(\sin m\phi)) \frac{l'_l}{1 + k'_l}$$

$$de(dn(\theta, \phi)) = R \sum_{l=0}^{\infty} \sum_{m=0}^l \frac{\tilde{P}_{l,m}}{\sin \theta}(\cos \theta) (-mC_{lm} \cos(m\phi) + mS_{lm}(\sin m\phi)) \frac{l'_l}{1 + k'_l}$$