

FORM TO SPECIFY INPUT DATA FOR
CURRENT-VELOCITY MODEL WGAUSS2

This subroutine specifies a zonal (eastward) current field whose intensity decays in a Gaussian manner in all three space dimensions.

$$u_{\phi} = U_{\phi 0} \exp \left\{ - \left(\frac{z-z_0}{W_z} \right)^2 - \left(\frac{\theta-\theta_0}{W_{\theta}} \right)^2 - \left(\frac{\phi-\phi_0}{W_{\phi}} \right)^2 \right\}$$

$z = r - r_e$, where r_e is the Earth radius, $\theta_0 = \pi/2 - \lambda_0$, and r is the radial coordinate of the ray point. θ is the colatitude. ϕ is the longitude.

Notice that this current field does not satisfy continuity if $W_{\phi} \neq 0$.

Specify--

the model check for WGAUSS2 = 8.0 (W100)

the input data-format code = (W101)

an input data-set identification number = (W102)

an 80-character description of the model, including description of parameter values:

the maximum value of u_{ϕ} , $U_{\phi 0} =$ km/s, m/s (W103)

the height where u_{ϕ} maximizes, $z_0 =$ km (W107)

the Gaussian width in height of u_{ϕ} , $W_z =$ km (W104)*

the latitude where u_{ϕ} maximizes, $\lambda_0 =$ rad, deg, km N (W108)

the meridional width of u_{ϕ} , $W_{\theta} =$ rad, deg, km (W105)*

the longitude where u_{ϕ} maximizes, $\phi_0 =$ rad, deg, km E (W109)

the zonal width of u_{ϕ} , $W_{\phi} =$ rad, deg, km (W106)*

OTHER MODELS REQUIRED: Any current-perturbation model. Use NPCURR if no perturbation is desired.

*Setting W_z , W_{θ} or $W_{\phi} = 0$ results in no space variation in that direction.