FORM TO SPECIFY INPUT DATA FOR SOUND-SPEED PERTURBATION MODEL CBLOB2

An increase (or decrease) in sound speed in a localized region that decays in a Gaussian manner in all three spatial directions.

$$c^2 (r,\theta,\phi) = C_o^2 (r,\theta,\phi) \left(1 + \Delta \exp \left\{- \left(\frac{z-z_o}{W_z}\right)^2 - \left(\frac{\theta-\theta_o}{W_\theta}\right)^2 - \left(\frac{\phi-\phi_o}{W_\phi}\right)^2 \right\}\right)$$

$C_o^2(r,\theta,\phi)$ is the <u>square</u> of the sound speed specified by a sound-speed model. (r,θ,ϕ) are the coordinates of the ray point in an Earth-centered spherical polar-coordinate system. $\theta_o = \pi/2 - \lambda_o$ and $z = r - r_e$, where r_e is the Earth radius.

Specify—

the model check for subroutine CBLOB2 = _____2.0_____ (W175)

the input data-format code = _____ (W176)

an input data-set identification number = _____ (W177)

an 80-character description for the sound-speed perturbation model, including description of parameter values:

_____

the strength of the fractional increase (or decrease), Δ = _____ (W178)

the height of maximum effect, z_o = _____ km (W179)

the latitude of maximum effect, λ_o = _____ rad, deg, km N (W180)

the longitude of maximum effect, ϕ_o = _____ rad, deg, km E (W181)

the Gaussian width in height of the effect, W_z = _____ km (W182)*

the meridional width of the effect, W_θ = _____ rad, deg, km (W183)*

the zonal width of the effect, W_ϕ = _____ rad, deg, km (W184)*

OTHER MODELS REQUIRED: none.

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* Setting W_z, W_θ, or W_ϕ = zero results in no space variation in that direction.