FORM TO SPECIFY INPUT DATA FOR
OCEAN-BOTTOM MODEL GTANH

This model represents the ocean bottom by a sequence of linear segments that are smoothly joined by hyperbolic functions:

$$g(r,\theta,\phi) = h - z(\theta), \text{ where}$$

$$z(\theta) = z_o + \frac{c_1}{2}(\theta-\theta_o) - \sum_{i=1}^{n} \delta_i \left(\frac{c_{i+1} - c_i}{2}\right) \ln\left\{\frac{\cosh\left(\frac{\theta-\theta_i}{\delta_i}\right)}{\cosh\left(\frac{\theta_i-\theta_o}{\delta_i}\right)}\right\} + \frac{c_{n+1}}{2}(\theta-\theta_o)$$

$$\frac{dz}{d\theta} = c_1 + \sum_{i=1}^{n} \left(\frac{c_{i+1} - c_i}{2}\right)\left\{-\tanh\left(\frac{\theta-\theta_i}{\delta_i}\right) + 1\right\}$$

$$c_i = (z_i - z_{i-1})/(\theta_i - \theta_{i-1})$$

$h = r - r_e$, where r_e is the Earth radius, and r is the radial coordinate of the ray point. $\theta_i = \pi/2 - \lambda_i$. Thus, δ_i is the half-thickness of a region centered at approximately θ_i, in which $dz/d\theta$ changes from c_i to c_{i+1}. Start by drawing a profile using linear segments, and θ_i and z_i from the corners. Then select δ_i to round the corners. The final profile will not go through (θ_i, z_i).

Specify--

the model check for GTANH = 3.0 (W300)

the input data-format code = _____(W301)

an input data-set identification number = _____(W302)

an 80-character description of the model with parameters:

_____

and the profile values:

the number of points in the profile -2 = n = _____

the profile: / i λ_i (rad,deg) z_i (km,m) δ_i (rad,deg)

OTHER MODELS REQUIRED: Any bottom-perturbation model. Use NPBOTM if no perturbation is desired. FUNCTION ALCOSH.