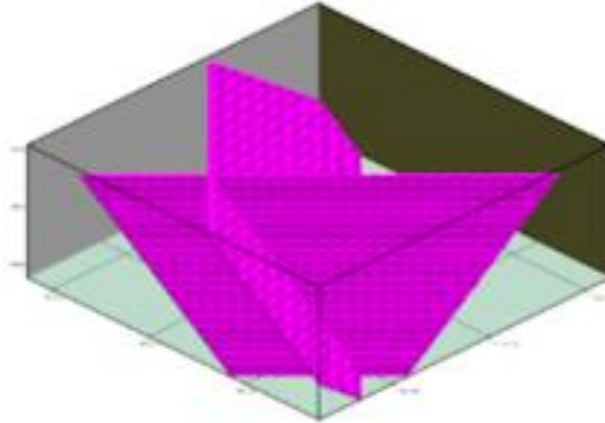
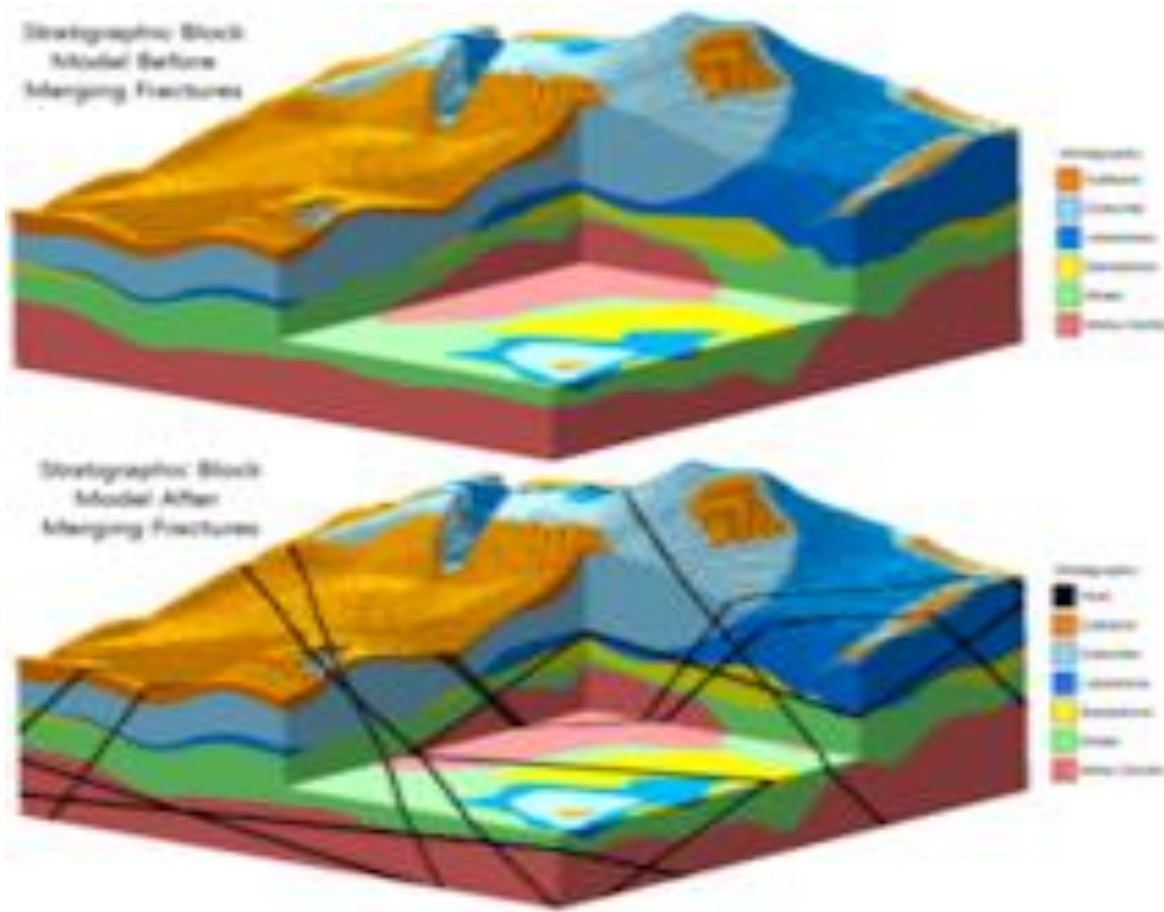


## Fracture Model Types

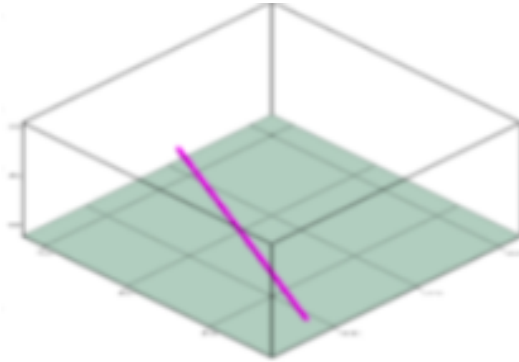
When using this option, voxels that are intersected by a fracture will be assigned a G-Value based on the specified **Fault G-value** while all other voxels will be assigned to a value specified by the **Non-Fault G-Value** (see example below). Please note that aperture attributes within the **Borehole Manager / Fractures Table** are not used in this program. Instead, the fracture modeling within this program identifies a voxel as fractured if it is intersected by a fracture plane.



**Merge Fractures with Existing Model:** This option will overwrite the voxels within the specified **Input Solid** that are intersected by a fracture with the value specified for the **Fault G-Value**. This provides a means for adding karst voids, gouge, etc. based on a G-Value assigned within the Lithology or Stratigraphy Types tables. In the example below (**Error! Reference source not found.**), a stratigraphic unit titled “Void” with a G-Value of zero and a color of black was added to the **Stratigraphy Types** table. The **Fault G-Value** within this menu was set to zero such that it replaces any fractured values within the *Void* rock type.

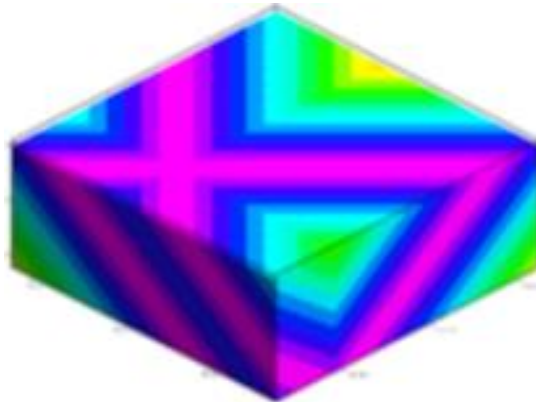


**Fracture Intersections:** When using this option, voxels that are intersected by a fracture intersection (a line) will be assigned a G-Value based on the specified **Fault G-value** while all other voxels will be assigned to a value specified by the **Non-Fault G-Value** (see example below). Given that fracture intersections often represent area of structural weakness, these models may be useful for identifying possible breccia and kimberlite pipes, hydrothermal steam vents, etc,



**Merge Fracture Intersections with Existing Model:** This option will overwrite the voxels within the specified **Input Solid** that are intersected by a fracture intersection with the value specified for the **Fault G-Value**. This provides a means for adding karst voids, gouge, etc. based on a G-Value assigned within the Lithology or Stratigraphy Types tables.

**Distance to Closest Fracture:** These models are used to visualize and quantify the degree of fracturing within a project site. Conversely, the distance-to-fracture models may be filtered (via the **ModOps / Solid / Range Filter** program) to identify unfractured areas. Example applications include optimizing dimension stone quarrying (e.g., Indiana Limestone), siting nuclear waste repositories, and subway tunnel routing.



**Distance to Closest Fracture Intersection:** **Distance-to-Closest Fracture Intersection** models (see example below) are commonly used to identify zones of maximum structural incoherence that may provide pathways or conduits for the movement of groundwater (e.g., karst), contaminants, hydrothermal fluids (e.g., breccia pipes), steam vents (e.g., geothermal), and molten rock (e.g., kimberlites).

