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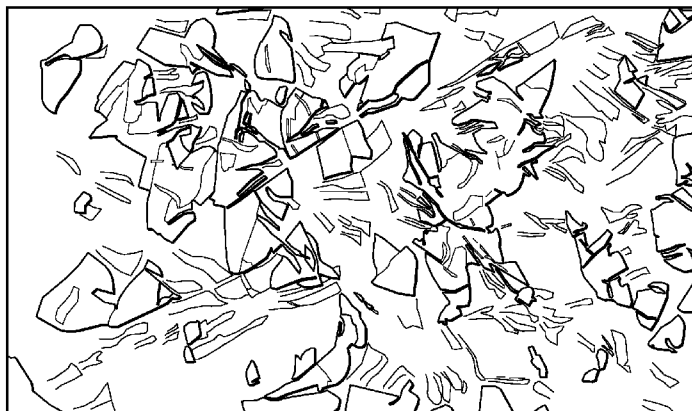


FIG. 1

(57) Abstract: The disclosed embodiments include a method, apparatus, and computer program product for modeling three dimensional objects, such as, but not limited to, fractures, for the purpose of reservoir simulation. For example, one disclosed embodiment includes a method that receives a set of 3D fractures with geometry that has been discretized by 2D surfaces by a collection of polygonal facets, generates a set of 3D stadia at specified radii around each facet in the collection of polygonal facet, generates closed 3D stadia surfaces around intersecting facets, discretizes all 3D stadia surfaces using various shape cells, generates 3D cells within each of the closed 3D stadia surfaces, and assigns each cell reservoir properties suitable for a numeric simulation program, such as, but not limited to, Nexus® Reservoir Simulation Software.



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