Ordering Triangles in Triangulated Terrains Over Regular Grids

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In this work we report on a set of rules to visit triangles in triangulated height fields defined over regular grids in a back-to-front order with respect to an arbitrary viewpoint. With the viewpoint, we associate an axis-aligned local reference framework. Projections on the $XY$ plane of the local axis and the bisector of the first and third quadrants define six sectors. Specific visiting rules for collections of triangles that project on each sector are then defined.

The experiments conducted show that the implementation of a simple algorithm based on the set of visiting rules defined allows real-time interaction when the viewing position moves along an arbitrary 3D path.

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