

1116-51-231

Derege H Mussa* (derege.mussa@utdallas.edu), 800 West Campbell Road, Richardson, TX 75080. *Generating Tetrahedra from a Monotonic series*. Preliminary report.

Derege Mussa(derege.mussa@utdallas.edu),800 West Campbell Road , Richardson, TX 75080. Generating Tetrahedra from a Monotonic series Tetrahedron (plural Tetrahedra) is a three dimensional solid having four vertices, four triangular faces and six edges which don't lie in a single plane. Each of the four faces of a tetrahedron form a triangle so a six tuple $S = (a, b, c, d, e, f)$ exists if the tetrahedron is facial and that the McCrean determinant is positive. Using only the partition information tetrahedron would lie in one of the 11 classes. These 11 classes exist as 3D type but not as a degenerate 2D type because it doesn't exist in the plane. According to Derege Mussa Theorem: There are 25 different partition classes of Tetrahedra taking into account graph theoretical aspects of the position of the edges, and all 25 types exist. if we take $\{1,1,1,1,1,1\}$ partition type one can construct a total of 30 incongruent Tetrahedra. The question is can we generate a legal Tetrahedra from a six tuple $S = (a, b, c, d, e, f)$ using monotonic series in a natural way? This paper discusses 1.Reconstruction of Tetrahedra 2. Monotonic series of Tetrahedra 3. Generating of Tetrahedra using monotonic series (Received August 15, 2015)