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Vladimir Bulatov* (info@bulatov.org), Corvallis, OR. *Wythoff Polyhedra Construction and its Generalizations*. Preliminary report.

The Wythoff construction of uniform polyhedra is based on reflections in sides of spherical triangles. The base vertex is placed inside of the triangle and series of reflections in triangle sides generate other equivalent polyhedron vertices and faces. The condition of uniformity restricts possible vertex location to few special points. Two generalization of the construction are considered. We allow the base vertex to be located anywhere on the surface of the sphere and we allow arbitrary spherical polygon to be used as generator for the polyhedron faces. The generalization produces continuous families of kaleidoscopic polyhedra. Numerous illustrations and animations of such polyhedral families will be presented for spherical, plain and hyperbolic geometries. (Received September 21, 2017)