

François Fillastre: Realization of polyhedral metrics on compact surfaces

A famous statement of Aleksandrov says that each Euclidean metric with conical singularities on the sphere is realized as a unique (convex) polyhedron in Euclidean space (up to isometries).

The aim of this talk is to present an analogous statement for a compact surface S of genus ≥ 2 : a metric of constant curvature -1 with conical singularities (with positive curvature) on S is realized as a unique convex so-called Fuchsian polyhedron in hyperbolic space (it is a polyhedron equivariant under the action of isometries preserving a totally geodesic plane).

Furthermore, polyhedral metrics on S with other curvatures are realizable in Lorentzian space-forms.