How to see the eight Thurston geometries

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Abstract. In this expository paper, we present a survey about the history of the geometrization conjecture and the background material on the classification of Thurston's eight geometries. We also discuss recent techniques for immersive visualization of relevant three-dimensional manifolds in the context of the Geometrization Conjecture.

Keywords. Non-Euclidean geometry; Thurston's geometries; visualization; ray tracing; shading.