



# Pseudo-Developing Maps for Ideal Triangulations I: Essential Edges and Generalised Hyperbolic Gluing Equations

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Let  $N$  be a topologically finite, orientable 3-manifold with ideal triangulation. We show that if there is a solution to the hyperbolic gluing equations, then all edges in the triangulation are essential. This result is extended to a generalisation of the hyperbolic gluing equations, which enables the construction of hyperbolic cone-manifold structures on  $N$  with singular locus contained in the 1-skeleton of the triangulation.

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