

Geometry of knots and links in the spaces of constant curvature

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We investigate the existence of hyperbolic, spherical or Euclidean structure on cone-manifolds whose underlying space is the three-dimensional sphere and singular set is a given knot or link. We present trigonometrical identities which involve the lengths of singular geodesics and cone angles of such cone-manifolds. Then these identities are used to produce exact integral formulae for the volume of the corresponding cone-manifold modeled in the hyperbolic, spherical and Euclidean geometries.

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The results are published in papers [?, ?, ?]:

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