

VOLUMES OF KNOTS AND LINKS IN 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. For two-bridge knots with not more than seven crossings we present trigonometrical identities involving 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.