

**APPLICATION OF INTERPOLATION OF CUBIC
TRIGONOMETRIC HERMITE INTERPOLATION CURVE
WITH PARAMETERS IN 2 DIMENSIONAL OBJECTS**

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ABSTRACT

The mathematical representation of an object's geometry created by a computer or piece of software is known as geometric modelling where the information that is both graphical and text-based is included. This data is shown as an image and kept in a database. The model can then be altered and subjected to various analyses. Geometric modelling frequently uses curves to build surfaces because they are simple to manipulate and bend to suit the purpose. A set of points, analytic functions, or other curves/functions can all be used to create curves. Geometric models can be divided into two categories which are two-dimensional models for technical drawing and three-dimensional models for computer-aided design and manufacturing. For further information, two-dimensional or 2D is commonly used for flat objects since it displays an image in two dimensions while for three-dimensional or 3D, the model's complicated geometry can be fully viewed in three dimensions due to the illustration. In addition, solid modelling is the primary method for 3D geometric modelling. In this project, cubic trigonometric Hermite interpolation will be used to construct two-dimensional objects where the properties of this method will be discussed further. The selection of the 2-dimensional object to be used in this study will be the initial step, after which data on the object's control points will be gathered. Then, using Mathematica, the design process is carried out using cubic trigonometric Hermite interpolation, and the outcomes are obtained. When used to build two-dimensional objects, cubic trigonometric Hermite interpolation produces excellent results because it produces curves that are both smooth and flexible.

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