

Harmonic Interpolation, Bézier Curves and Trigonometric Interpolation

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A harmonic interpolation of a polygon (for odd and even numbers of points forming the polygon) used in computer graphics is derived from the primary permutation matrix using the spectral decomposition of the matrix. This is a technique to draw closed curves. We compare these curves with Bézier curves. We also show situations where the harmonic interpolation of a polygon is a more suitable alternative to Bézier curves. Trigonometric Interpolation is another technique to draw curves. The relationship between trigonometric interpolation and harmonic interpolation is discussed.

Key words: Harmonic Interpolation; Permutation Matrix; Bézier Curves.