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RESEARCH · JUNE 2015

DOI: 10.13140/RG.2.1.1465.8724

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In this paper, we study Smarandache curves according to 2 type Bishop frame in Euclidean 3-space.

Key words: Smarandache curves, 2 type Bishop frame

1. Preliminaries

In this section, we will give some fundamental definitions and theorems.

Euclidean 3-space $E^3 = \{(x_1, x_2, x_3) : x_1, x_2, x_3 \in R\}$ is furnished with the Euclid metric is given by

$$\langle , \rangle = dx_1^2 + dx_2^2 + dx_3^2$$

where (x_1, x_2, x_3) is orthogonal coordinate system of E^3. The norm of a vector X is defined by $\|X\| = \sqrt{\langle X, X \rangle}$. Let $\alpha : I \to E^3$ be a curve in E^3. The curve α is called a unit speed curve or curve parametrized by arc length If $\|\alpha\| = 1$ is for all $t \in I$. If $\{T, N, B\}$ is the Frenet frame of the curve α , then the Frenet equations are

$$\begin{bmatrix} T' \\ N' \\ B' \end{bmatrix} = \begin{bmatrix} 0 & \kappa & 0 \\ -\kappa & 0 & \tau \\ 0 & -\tau & 0 \end{bmatrix} \begin{bmatrix} T \\ N \\ B \end{bmatrix}$$

where κ and τ are the curvature and the torsion of the curve α, respectively. If the curve β is non-unit speed, then

$$T = \frac{\dot{\beta}}{\left\|\dot{\beta}\right\|}, \quad B = \frac{\dot{\beta} \wedge \ddot{\beta}}{\left\|\dot{\beta} \wedge \ddot{\beta}\right\|}, \quad N = B \wedge T$$

$$\kappa_\beta = \frac{\left\|\dot{\beta} \wedge \ddot{\beta}\right\|}{\left\|\dot{\beta}\right\|^3}, \quad \tau_\beta = \frac{\left\langle \dot{\beta} \wedge \ddot{\beta}, \dddot{\beta} \right\rangle}{\left\|\dot{\beta} \wedge \ddot{\beta}\right\|^2}$$

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