

**Choi, Jin Ho; Kang, Tae Ho; Kim, Young Ho**  
**Mannheim curves in 3-dimensional space forms.** (English) Zbl 1284.53004  
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In Euclidean 3-space, Mannheim curves are characterised by the equation

$$\kappa = a(\kappa^2 + \tau^2)$$

for a constant  $a \neq 0$ , where  $\kappa$  and  $\tau$  are the curvature and the torsion of the curve. Similarly, Mannheim partner curves are characterised by

$$\kappa' = \frac{\kappa}{a}(1 + a^2\tau^2)$$

where  $\kappa'$  represents the derivative of the curvature with respect to the arc length parameter.

In this paper the authors give a definition of Mannheim and Mannheim partner curves in Riemannian 3-manifolds and give characterisations for such curves in 3-dimensional space forms which generalise the characterisations for the Euclidean case.

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**MSC:**

[53A04](#) Curves in Euclidean and related spaces  
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