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**Curves with finite turn.** (English) Zbl 1167.46321  
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**Summary:** We study the notions of finite turn of a curve and finite turn of tangents of a curve. We generalize the theory (previously developed by *A. D. Alexandrov*, *A. V. Pogorelov*, and *Yu. Reshetnyak*) of angular turn in Euclidean spaces to curves with values in arbitrary Banach spaces. In particular, we manage to prove the equality of angular turn and angular turn of tangents in Hilbert spaces. One of the implications was only proved in the finite dimensional context previously, and equivalence of finiteness of turn with finiteness of turn of tangents in arbitrary Banach spaces. We also develop an auxiliary theory of one-sidedly smooth curves with values in Banach spaces. We use analytic language and methods to provide analogues of angular theorems. In some cases our approach yields stronger results than those that were proved previously with geometric methods in Euclidean spaces.

**MSC:**

[46T99](#) Nonlinear functional analysis  
[53A04](#) Curves in Euclidean and related spaces  
[58B99](#) Infinite-dimensional manifolds

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**Keywords:**

[tangent of a curve](#); [curve with finite convexity](#); [delta-convex curve](#)

**Full Text:** [DOI](#) [EuDML](#)

**References:**

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