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Trajectory

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Synonyms

[Moving point](#); [Trajectory](#)

Definition

Representation of a time-dependent position observed over some period of time. Usually represented as a polyline in a 3D (2D + time) space for an object moving in the 2D plane.

Key Points

Trajectories describe complete histories of movement; they are stored in *moving objects databases*, sometimes called *trajectory databases* in the literature.

When operations are included, a trajectory corresponds to a value of a *moving point* data

type. Queries on databases containing trajectories can be formulated using *moving object languages*. When uncertainty about an object's precise position is taken into account, an uncertain trajectory [3] results which can be viewed as a kind of cylindrical volume in the 2D + time space. There exists a lot of work on indexing trajectories [2]. Querying for trajectories similar to a given one is also an important research area [1].

Cross-References

- [Moving Objects Databases and Tracking](#)
- [Spatiotemporal Data Types](#)

References

1. Chen L, Özsu MT, Oria V. Robust and fast similarity search for moving object trajectories. Proceedings of the ACM SIGMOD International Conference on Management of Data. 2005. p. 491–502.
2. Mokbel MF, Ghanem TM, Aref WG. Spatio-temporal access methods. Bull TC Data Eng. 2003;26(2):40–9.
3. Trajcevski G, Wolfson O, Hinrichs K, Chamberlain S. Managing uncertainty in moving objects databases. ACM Trans Database Syst. 2004;29(3):463–507.