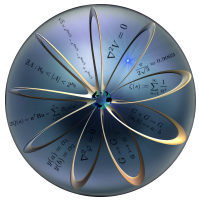

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submersion

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A differentiable map $f\colon X \to Y$ differential manifolds X and Y is called a *submersion at a point* $x \in X$ if the tangent map

$$\mathrm{T}f(x)\colon \mathrm{T}X(x) \to \mathrm{T}Y(f(x))$$

between the tangent spaces of X and Y at x and $f(x)$ is surjective.

If f is a submersion at every point of X, then f is called a *submersion*. A submersion $f\colon X \to Y$ is an open mapping, and its image is an open submanifold of Y.

A fibre bundle $p\colon X \to B$ over a manifold B is an example of a submersion.