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immersion

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Defines	closed immersion

Let X and Y be manifolds, and let f be a mapping $f : X \rightarrow Y$. Choose $x \in X$, and let $y = f(x)$. Recall that $df_x : T_x(X) \rightarrow T_y(Y)$ is the derivative of f at x , and $T_z(Z)$ is the tangent space of manifold Z at point z .

If df_x is injective, then f is said to be an *immersion at x* . If f is an immersion at every point, it is called an *immersion*.

If the image of f is also closed, then f is called a *closed immersion*.

The notion of <http://planetmath.org/ClosedImmersion> closed immersion for schemes is the analog of this notion in algebraic geometry.