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Sub-Riemannian manifold

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| Synonym | Sub-Riemannian geometry |

A *Sub-Riemannian* manifold is a triple $(M, \mathcal{H}, g_{\mathcal{H}})$ where M is a manifold, \mathcal{H} is a distribution (that is, a linear subbundle of the tangent bundle TM of M), and $g_{\mathcal{H}}$ is a metric on \mathcal{H} induced by a fiber inner product on \mathcal{H} . The distribution \mathcal{H} is often referred to as the *horizontal* distribution.