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| connect infinitesimally close tangent spaces, fibers, Klein geometry, etc. | | |
| | Affine connection | Linear connection (connection on a vector bundle) |
| principal connection | | Koszul connection |
| Cartan connection | Codazzi connection totally symmetric $C = \nabla g$ | Conjugate statistical connection |
| equiaffine connection (for a parallel volume form ω , $\nabla\omega = 0$) | Statistical connection (torsion free) | Conjugate symmetric |
| | Levi-Civita connection $\bar{\nabla}$ (for a metric $g, \bar{\nabla}g = 0$) | Dual connection |
| | | connection on fiber bundle |
| projective connection | | |
| | Ehresmann connection | |
| conformal connection | | |
| | | principal connections |
| Contact projective connections | | |
| | | Parabolic Cartan connections |