

# Riemannian Newton and Quasi-Newton Type Schemes

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**Abstract:** The current talk concerns with Newton and/or quasi-Newton type schemes for solving inclusions defined in a finitely dimensional Riemannian manifold. In the first part, we discuss about the Newton-type framework for the inclusion involving set-valued mapping whose values are in a Euclidean space. We present some sufficient conditions which ensure the local quadratic convergence for such a framework. The second one is devoted to deal with a quasi-Newton strategy for inclusion involving point-to-set vector fields. We will give some results allows us to obtain the superlinear convergence for our proposed scheme. Finally, we apply these results in order to study the convergence of a Riemannian Broyden-type update.

## References

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