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## Gravitational waves in Teleparallel theories of gravity

The Teleparallel equivalent of General Relativity, where the connection is curvatureless, offers an alternative but equivalent way of describing gravity. In accordance to GR-based modified theories such as f(R) there are also torsion or non-metricity teleparallel modifications like f(T), where T the torsion scalar and f(Q), where Q is the non-metricity scalar both of them playing a role analogous to the curvature scalar R. In principle GR-based modifications and Teleparallel-based ones are not equivalent theories. In this talk we will present a gravitational wave analysis of some prominent Teleparallel Modified theories and how they differ from GR and f(R) gravities and how they are constrained after GW170817. The talk will be based on 10.1103/Phys-RevD.97.124064, 10.1103/PhysRevD.100.044008 and arXiv:1907.10057.

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