Teleparallel gravity is an alternate approach to a theory of gravity, where instead of using curvature to describe the relationship between matter, energy and space-time, we use torsion as the fundamental geometric quantity. In the last decade, $f(T)$-type gravity has been developed as a fully covariant theory that obeys local Lorentz invariance. We expand on former works by finding the local Lorentz transformation to a purely inertial frame for a class of teleparallel geometries, specifically spherically symmetric geometries.

We start with the spin connection for a general spherically symmetric teleparallel geometry and establish a system of matrix partial differential equations using the transformation laws for our spin connection. Solving these equations yields a transformation that can be applied to a generic spherically symmetric frame, bringing us to a purely inertial(proper) frame. Additionally, we explore sub-cases of the geometry that are relevant for describing cosmological effects.