# Einstein Double Field Equations

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**Abstract**

Upon treating the whole closed string massless sector as stringy graviton fields, Double Field Theory may evolve into Stringy Gravity, *i.e.* the stringy augmentation of General Relativity. Equipped with an $\mathrm{O}(D,D)$ covariant differential geometry beyond Riemann, we spell out the definition of the Energy-Momentum tensor in Stringy Gravity and derive its on-shell conservation law from doubled general covariance. Equating it with the recently identified stringy Einstein curvature tensor, all the equations of motion of the closed string massless sector are unified into a single expression, $G_{AB} = 8\pi G T_{AB}$, which we dub the *Einstein Double Field Equations*. As an example, we study the most general $D = 4$ static, asymptotically flat, spherically symmetric, 'regular' solution, sourced by the stringy Energy-Momentum tensor which is nontrivial only up to a finite radius from the center. Outside this radius, the solution matches the known vacuum geometry which has four constant parameters. We express these as volume integrals of the interior stringy Energy-Momentum tensor and discuss relevant energy conditions.