

Extended test bodies with spin in curved spacetime

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The Mathisson-Papapetrou-Dixon equations are describing the motion of an extended spinning test body in a curved spacetime. The Mathisson-Papapetrou-Dixon equations have internal degrees of freedom, which allow us to fix the affine parameter and the center of the mass defining the worldline of the body. To constraint these degrees of freedom, we have to choose a time parametrization and a spin supplementary condition. We will discuss the impact of these constraints on the motion of the body and the implications on the emitted gravitational waves.

References

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