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Thermodynamic consequences for modified Rastall gravity

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We studied thermodynamic aspects of modified Rastall gravity; recently, we proposed a modified Rastall gravity related to unimodular gravity. In this context, we study the non-conservation of the energy-momentum tensor; we develop covariant formalism of the first and second laws of thermodynamics. The second law implies a non-zero entropy flow and it is necessary to introduce particle production as part of the laws of thermodynamics, we show the consequences for the FLRW cosmological model.

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