

# Influence of intrinsic spin in the formation of singularities for inhomogeneous effective dust space-times

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The evolution of inhomogeneous space-times composed of uncharged fermions is studied for Szekeres metrics which have no Killing vectors, in general. Using the Einstein-Cartan theory to include the effects of (intrinsic) matter spin in General Relativity, the dynamics of a perfect fluid with non-null spin degrees of freedom is considered. It is shown that, if the matter is composed by effective dust and certain constraints on the initial data are verified, a singularity will not form. Various special cases are discussed, such as Lemaître-Tolman-Bondi and Bianchi  $I$  space-times, where the results are further extended or shown explicitly to be verified.

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