

Gravitational wave and vorticity perturbations in cosmology using the 1+1+2 covariant split of spacetime

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First order perturbations of homogeneous orthogonal LRS (Locally Rotationally Symmetric) class II cosmologies with cosmological constant are considered in the framework of the 1+1+2 covariant decomposition of spacetime. The perturbations, which are of perfect fluid type, include general scalar, vector and tensor modes. For example, the evolutions of vorticity and gravitational waves are studied.