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## Dynamical analysis approaches in spatially curved FRW spacetimes

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In this work we perform dynamical analysis of a broad classes of barotropic fluids and a non-minimally coupled real scalar fields in the Friedmann-Robertson-Walker (FRW) spacetime framework. The first part of our study concerns the dynamics of a fluid with an unspecified barotropic equation of state (EoS) having as the only assumption the non-negativity of the fluid's energy density. The second part of our study concerns the dynamics of an unspecified positive potential in a spatially curved FRW spacetime. For each of these cosmological models we define a new set of dimensionless variables and a new evolution parameter. In the frameworks of these general setups, we have recognized several general features of these systems, like symmetries, invariant subsets and critical points, and provide their cosmological interpretation. The last part of our work provides some examples to show how these two general setups can be used.

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