

An Interacting Two-Fluid Scenario for Quintom Dark Energy

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Abstract: The Quintom dark energy is a proposal that explains the recent observations that mildly favor the equation of state of dark energy w crossing -1 near the past. The Quintom model is often constructed by two scalar fields, where one is the quintessence field and another is the phantom field. The cosmological implication of the coupling of the two fields of the dark energy is out of question worth investigating. However, the consideration of the coupling in the field scenario is somewhat complex thus we propose an interacting two-fluid Quintom scenario for simplicity. The interaction between the two components is parametrized by a constant η in this scenario. The cosmological implications of this parametrization are investigated in detail in this paper. Also, a diagnostic for this model is performed by using the statefinder pairs $\{s,r\}$ and $\{q,r\}$.

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Key words: Quintom dark energy, interacting two-fluid scenario, statefinder diagnostic

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