



High Energy Physics - Theory

# A solution of the coincidence problem based on the recent galactic core black hole energy density increase

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A mechanism capable of providing a natural solution to two major cosmological problems, first cosmic acceleration and second the coincidence problem is proposed. A specific brane-bulk energy exchange mechanism is analyzed which produces a total dark pressure coming by adding all negative pressures from the extra dimension in the interior of galactic core black holes. An exciting finding is that the explanation of why dark energy is today of the same order of the matter density, for a wide range of the involved parameters, is attributed to the recent rise of the galactic core black hole density. Furthermore, the model can lead to a crossing of the phantom divide recently.

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