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Cosmology from decaying dark energy, primordial at the Planck scale JAIME BESPROSVANY, Instituto de Física, UNAM — The consideration of dark energy's quanta, required also by thermodynamics, introduces its chemical potential into the cosmological equations. Isolating its main contribution, we obtain solutions with dark energy decaying to matter or radiation. When dominant, their energy densities tend asymptotically to a constant ratio, explaining today's dark energy-dark matter coincidence, and in agreement with supernova redshift data, and an age-of-the-universe constraint. This also connects the Planck and today's scales through time. This decay may be manifested in the highest-energy cosmic rays, recently detected.

Jaime Besprosvany
Instituto de Física, UNAM

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