In the name of God

Department of Physics
Shahid Beheshti University

ADVANCED TOPICS IN MODERN COSMOLOGY

Exercise Set 8

(Date Due: 1393/02/30)

1. Quintessence model building:

   A :Suppose that $V(\phi) = V_0 \exp(-\lambda\phi)$ and $V(\phi) = V_0/\phi^\alpha$. For both of them compute equation of state, w_ϕ. Plot w_ϕ as a function of redshift.

   B : Suppose that $w_\phi(z;\alpha) = w_0(1+z)^\alpha$. Compute $\phi(z)$ and $V(\phi, z)$.

Good luck, Movahed

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