Model-agnostic assessment of dark energy after DESI DR1 BAO

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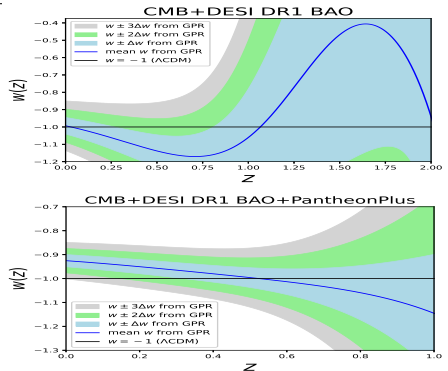
27th November 2024 : SARAO PPSC

▶ **DESI DR1 BAO (April 2024)**:
Evidence for dynamical dark energy
with $w_0 w_a$CDM model at $\sim 3\sigma$.
ArXiv:2404.03002

▶ **Is this evidence similar for other models?** Not really. Biased to a model.

Hence, the model-independent methodology: such as Gaussian Process (especially Multi-task).

$$w(z) = -1 - \frac{2(1+z)\tilde{D}'_H(z) + 3\gamma(1+z)^3 \tilde{D}^3_H(z)}{3\left[\tilde{D}_H(z) - \gamma(1+z)^3 \tilde{D}^3_H(z)\right]},$$

$$\gamma = \frac{\Omega_{\mathrm{m}0} H_0^2 r_d^2}{c^2}, \quad \tilde{D}_H(z) = \frac{D_H(z)}{r_d}, \quad D_H(z) = \frac{c}{H(z)}$$

Conclusion: No strong evidence for dynamical dark energy.