RUPRECHT-KARLS-
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HEIDELBERG

Observations of Dark Energy

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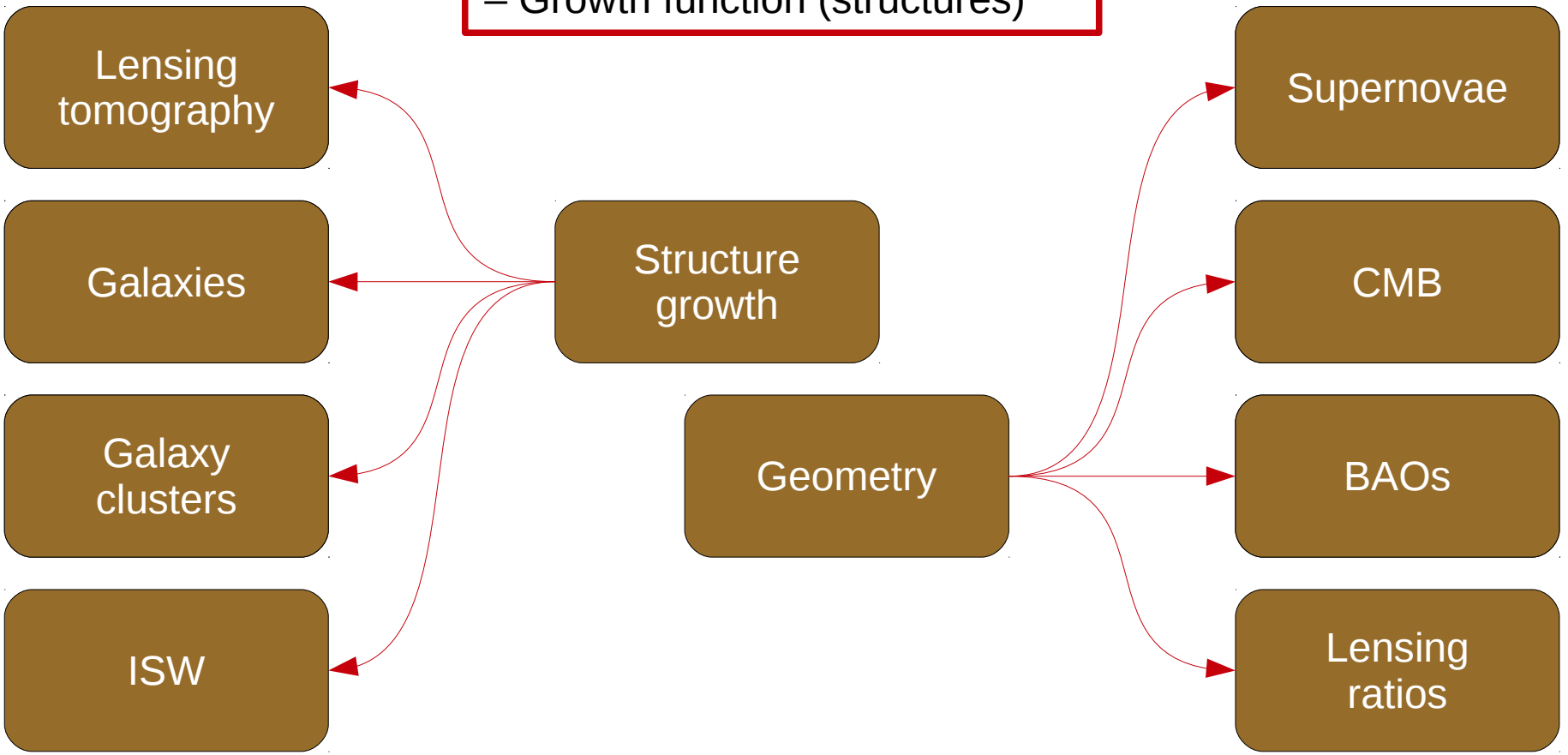
ARI+ITA+LSW

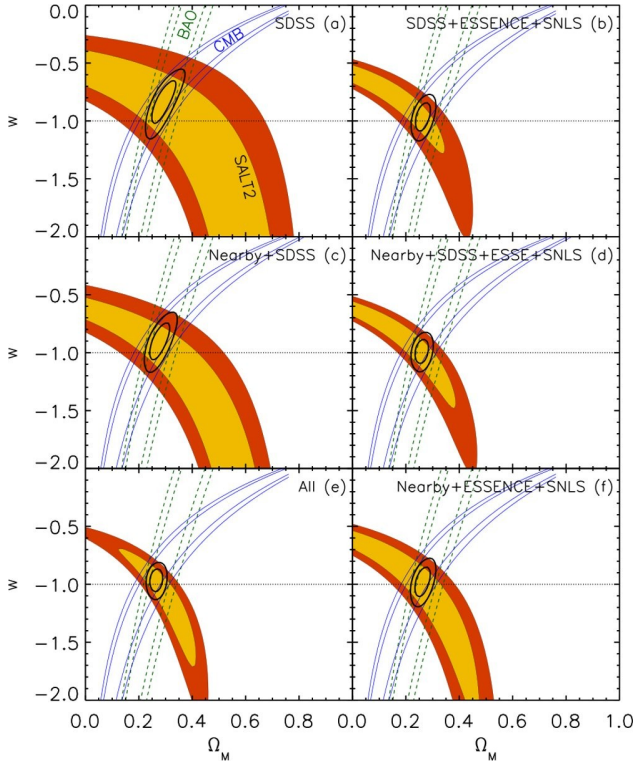
Observables

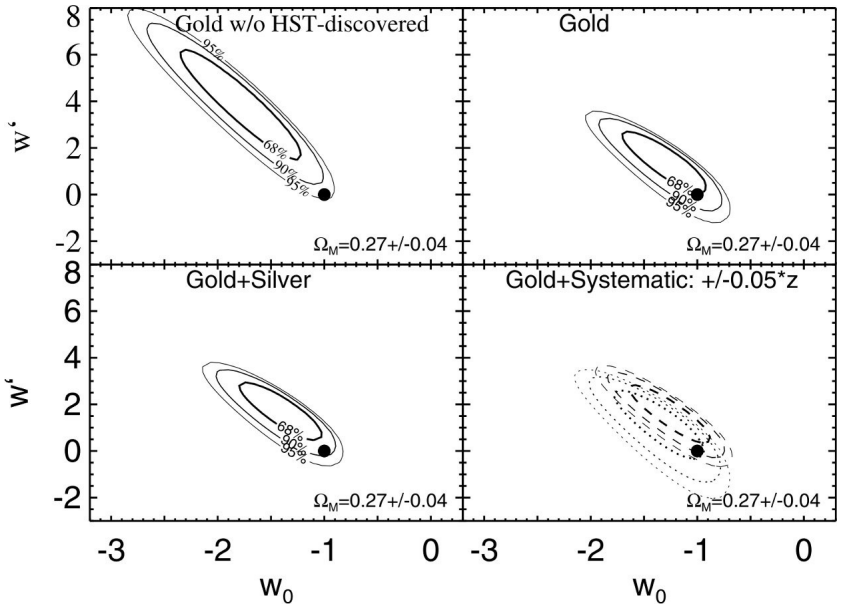
Cosmological observables probe one of two functions:

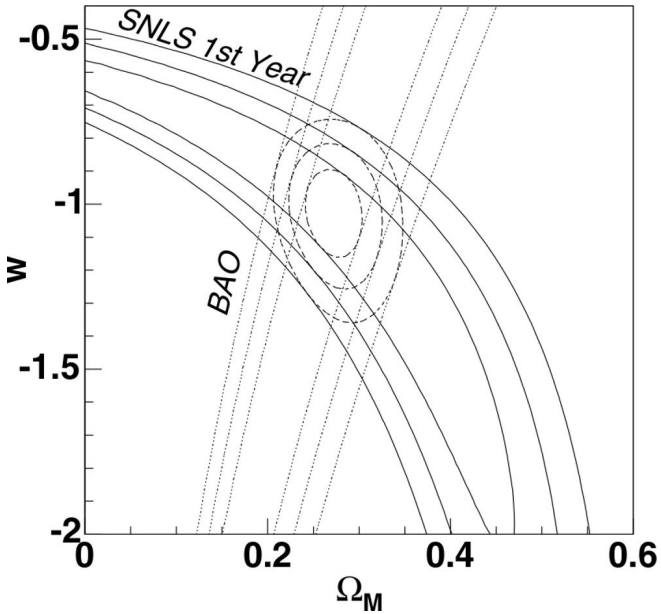
– Expansion function (distances)
– Growth function (structures)

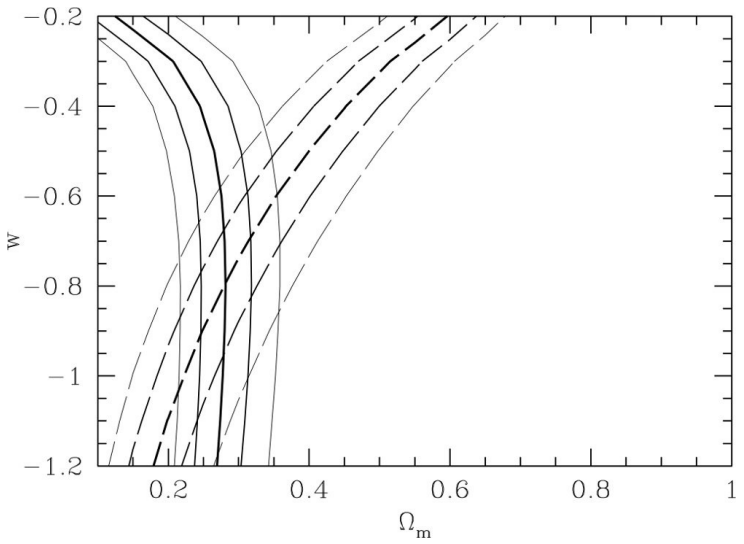


Observables (1)



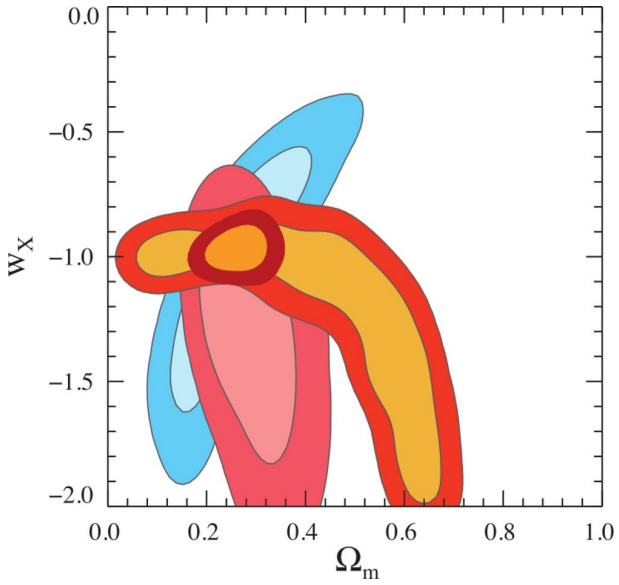


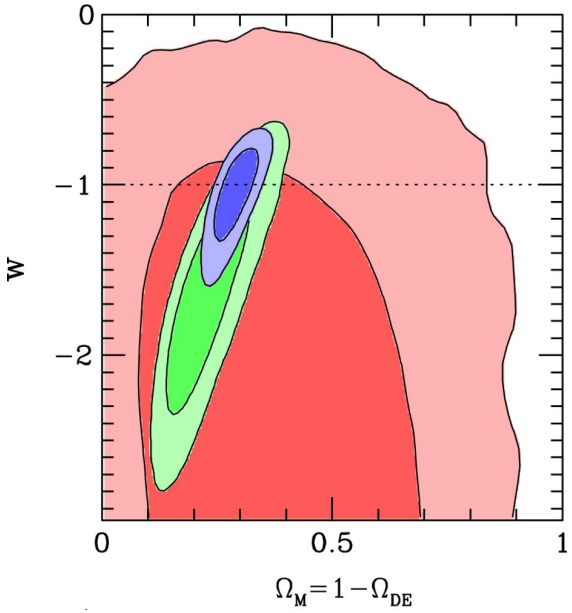


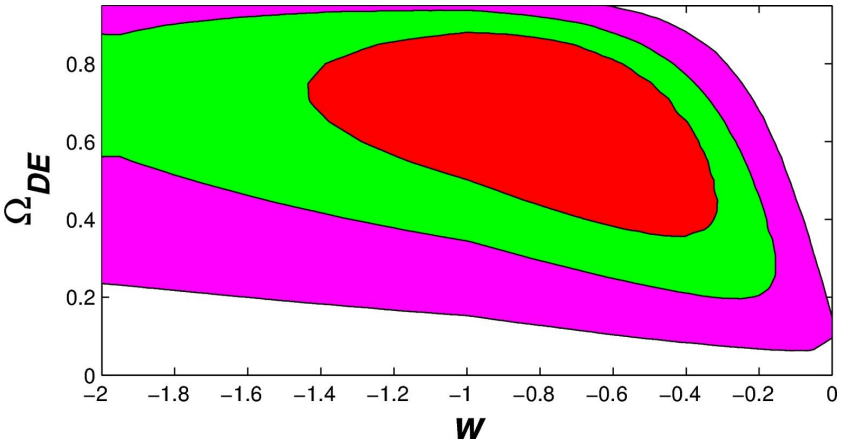


Kessler et al.
Astier et al.
Eisenstein et al.
Riess et al.

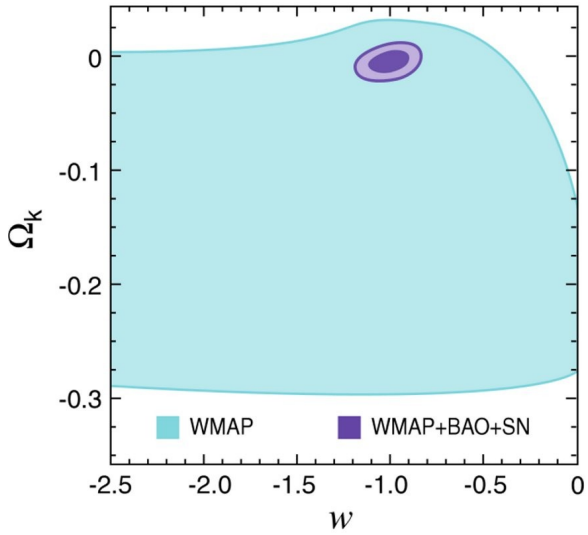
Observables (2)

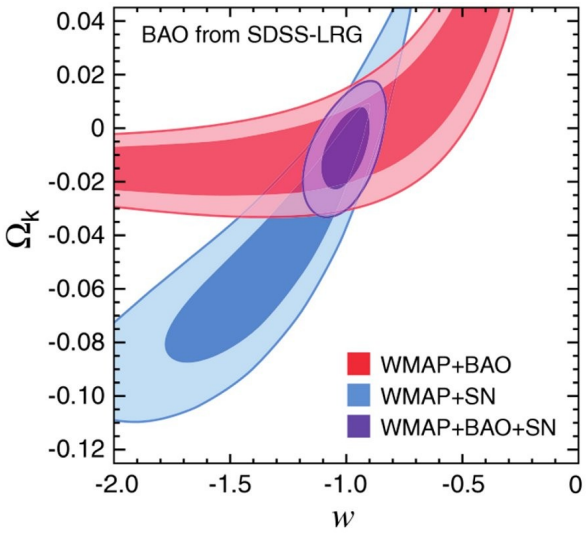


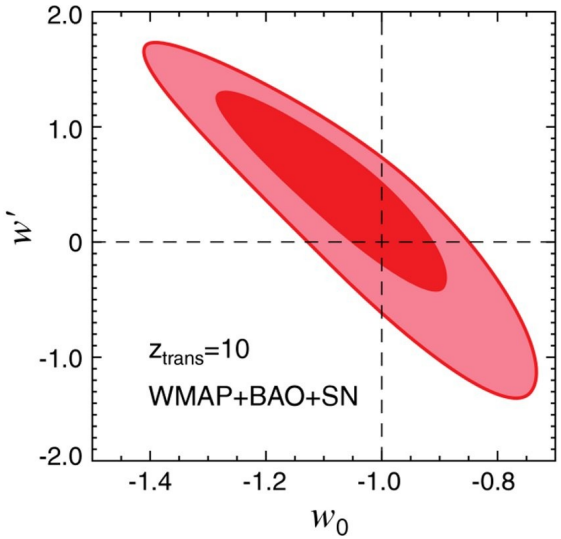




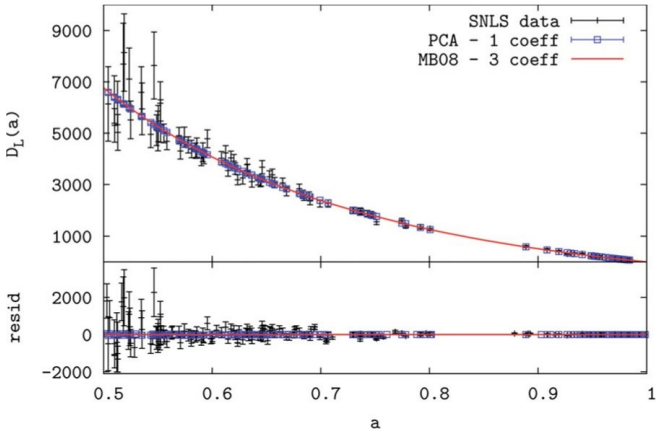
Jullo et al., Komatsu et al., Vielva et al., Oguri et al.

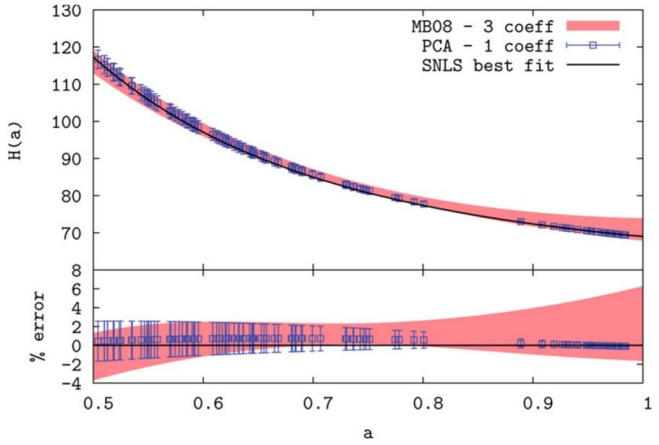


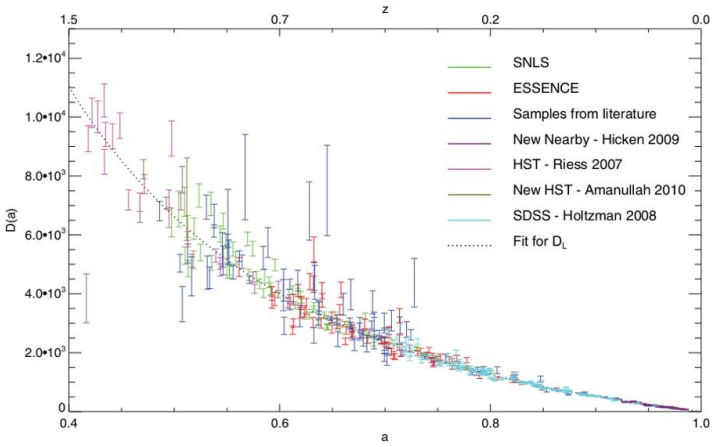


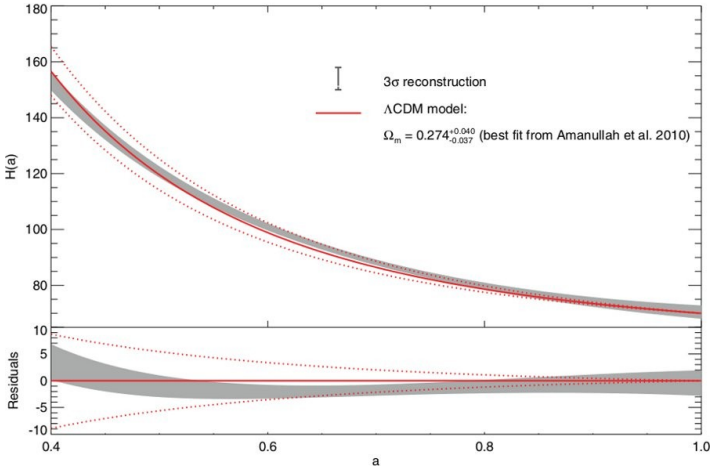


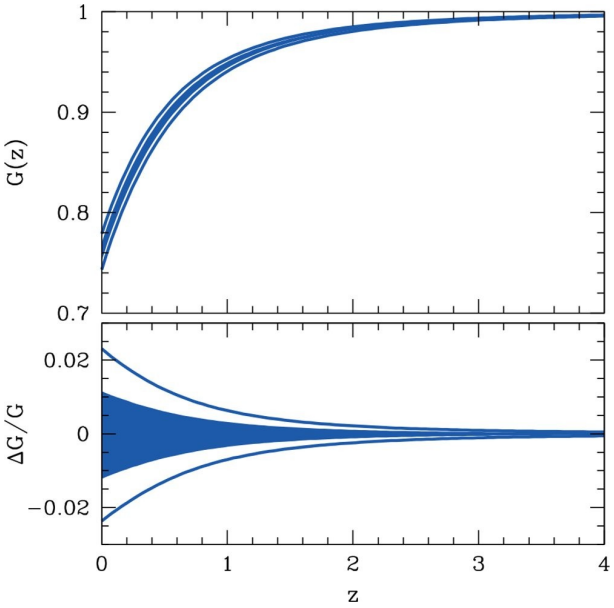
Observables (3)





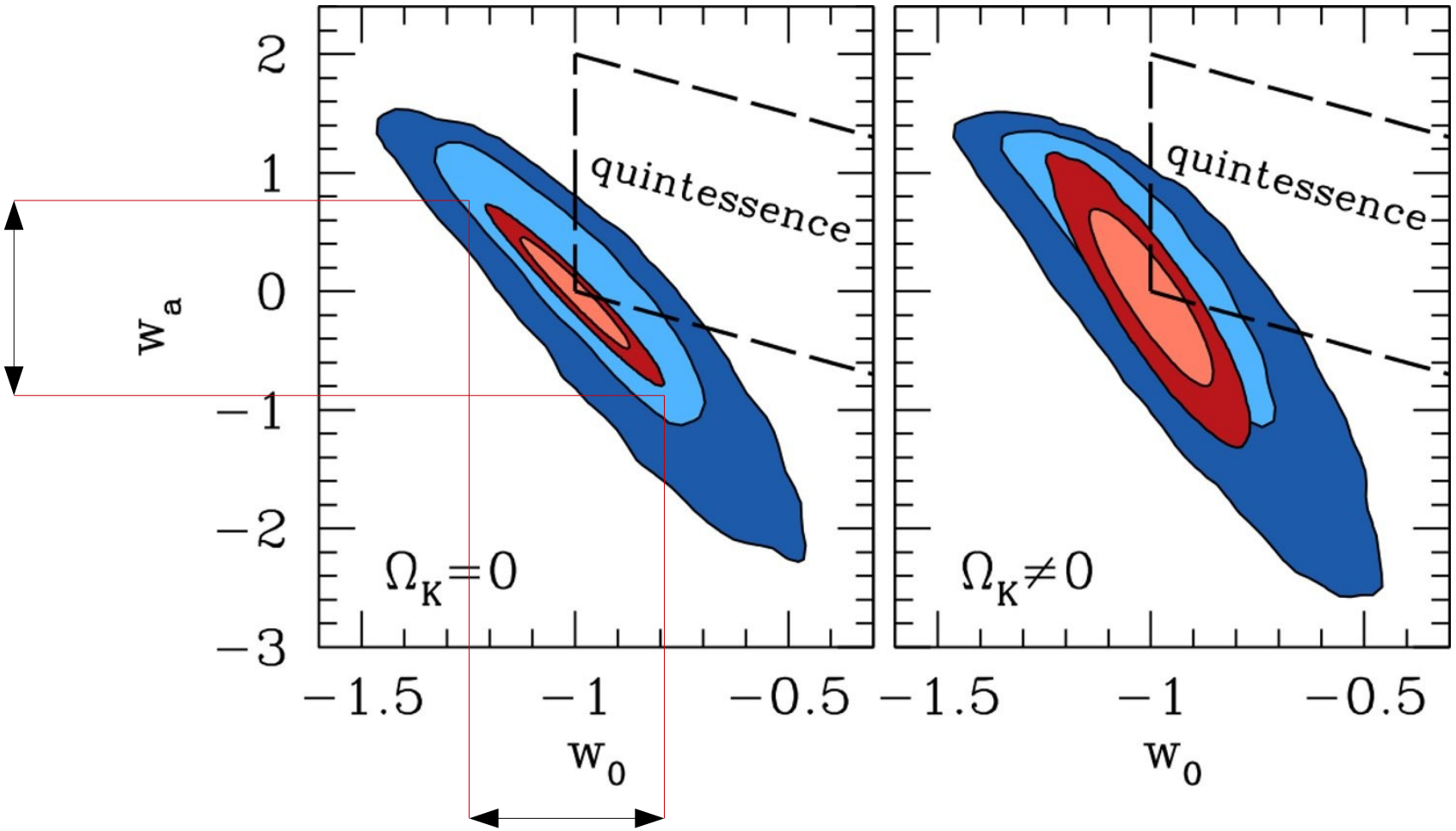






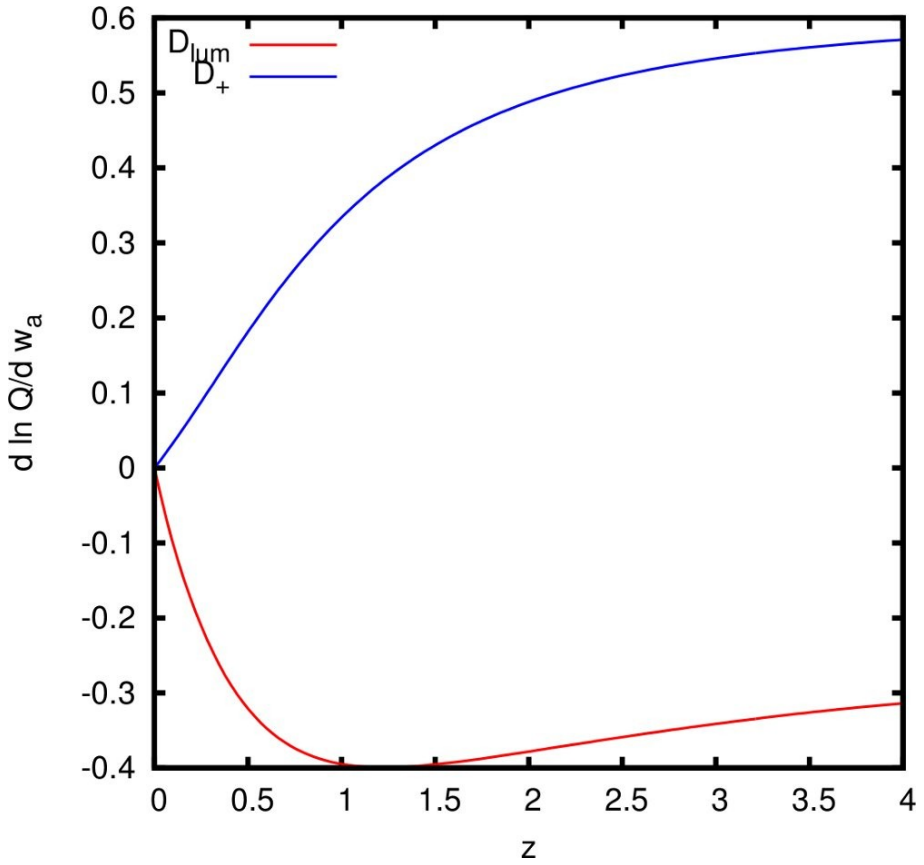
Maturi & Mignone, Benítez-Herrera, Vanderveld et al.

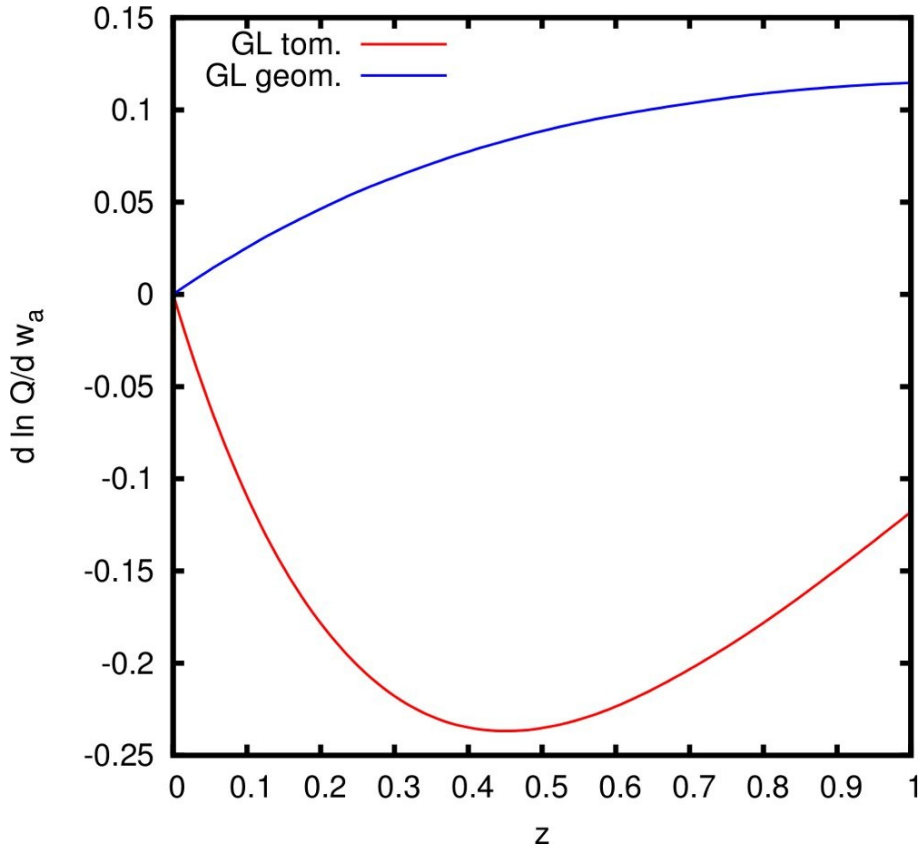
Expectations



Mortonson et al. 2010
SNIa + CMB (Planck)

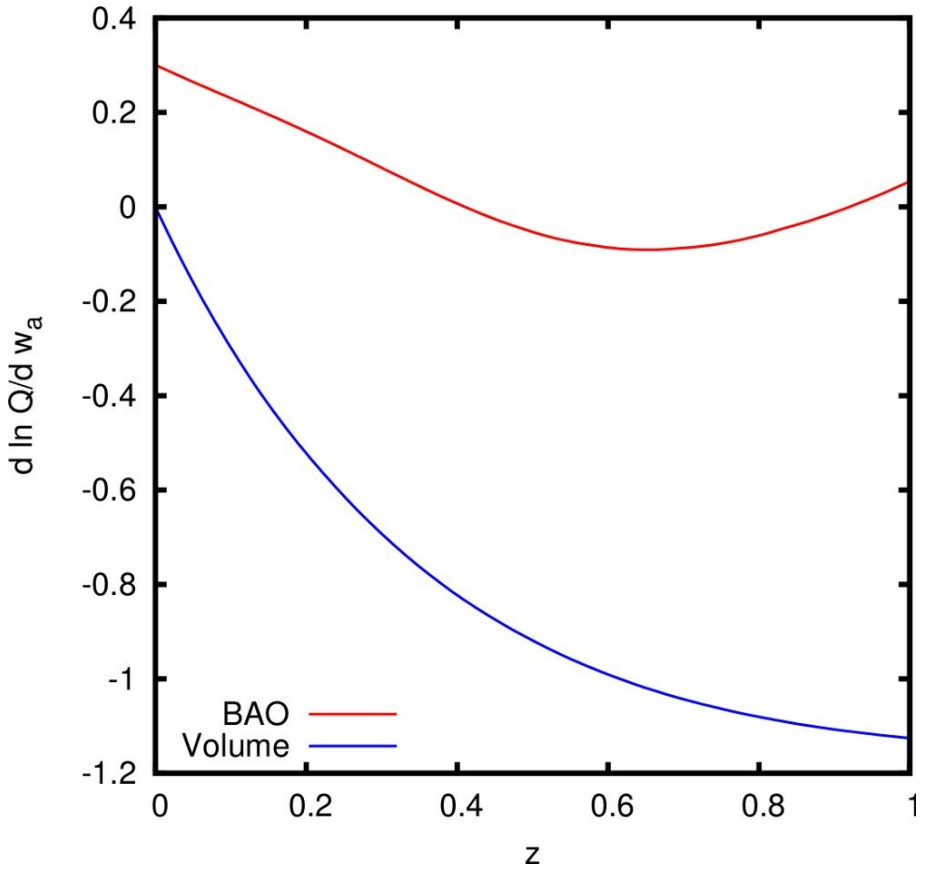
Sensitivity (1)

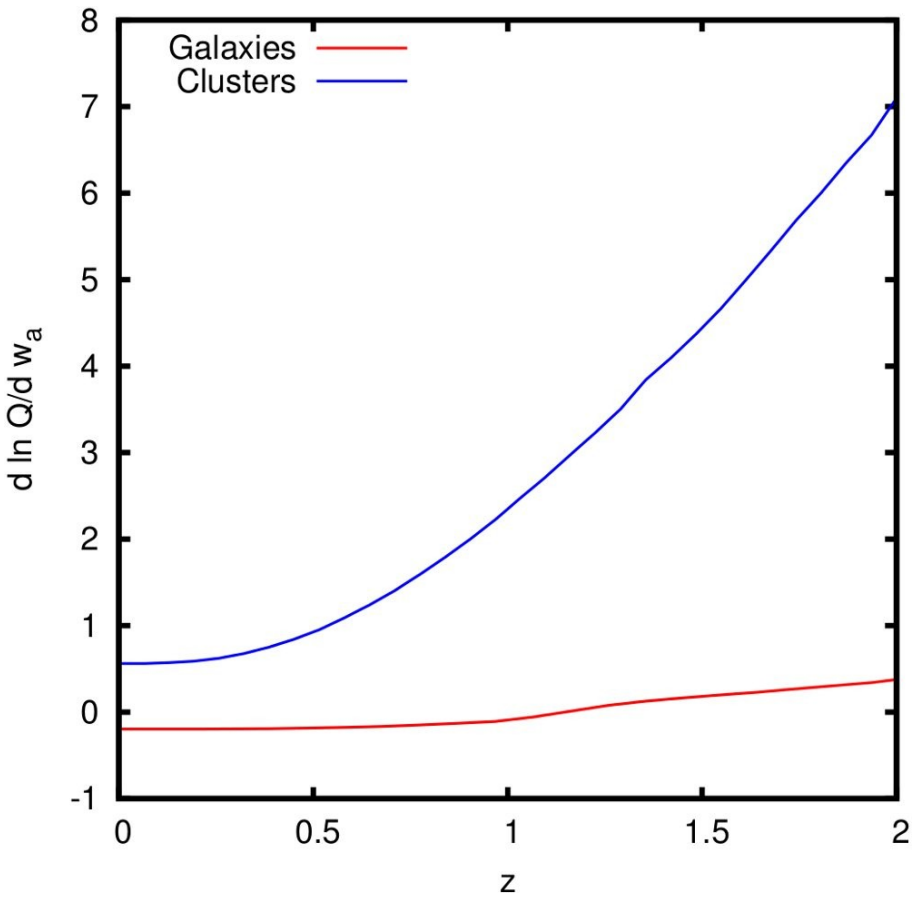




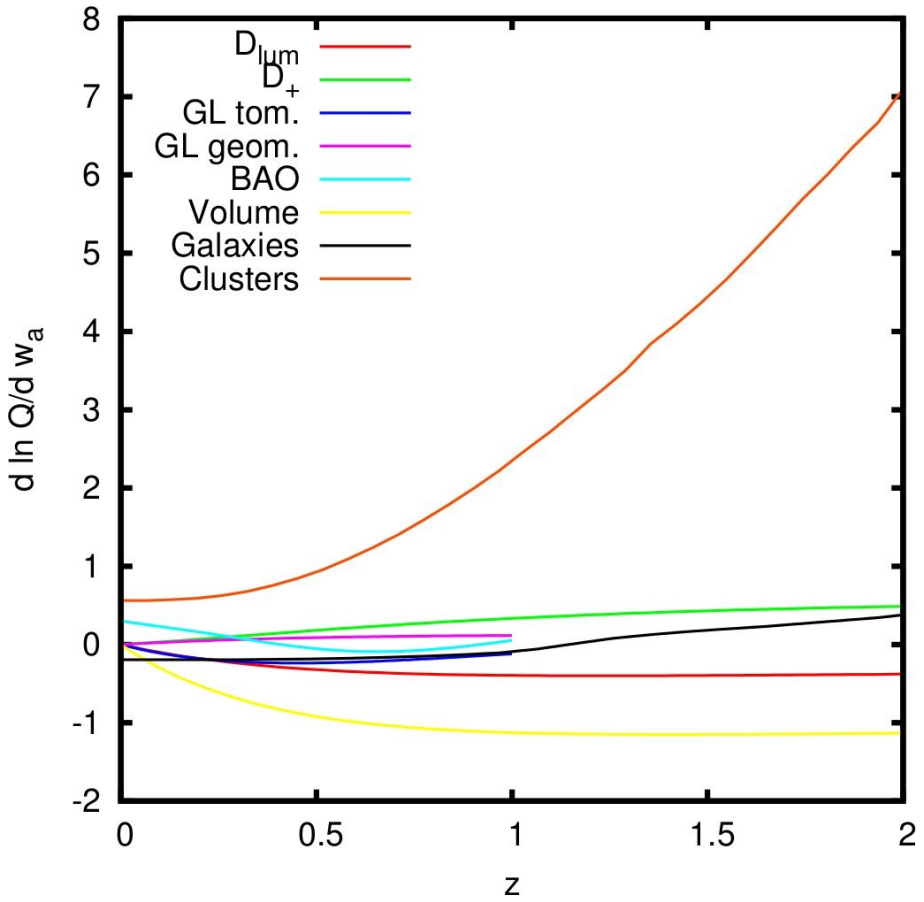
$$w(a) = w_0 + (1-a)\,w_a$$

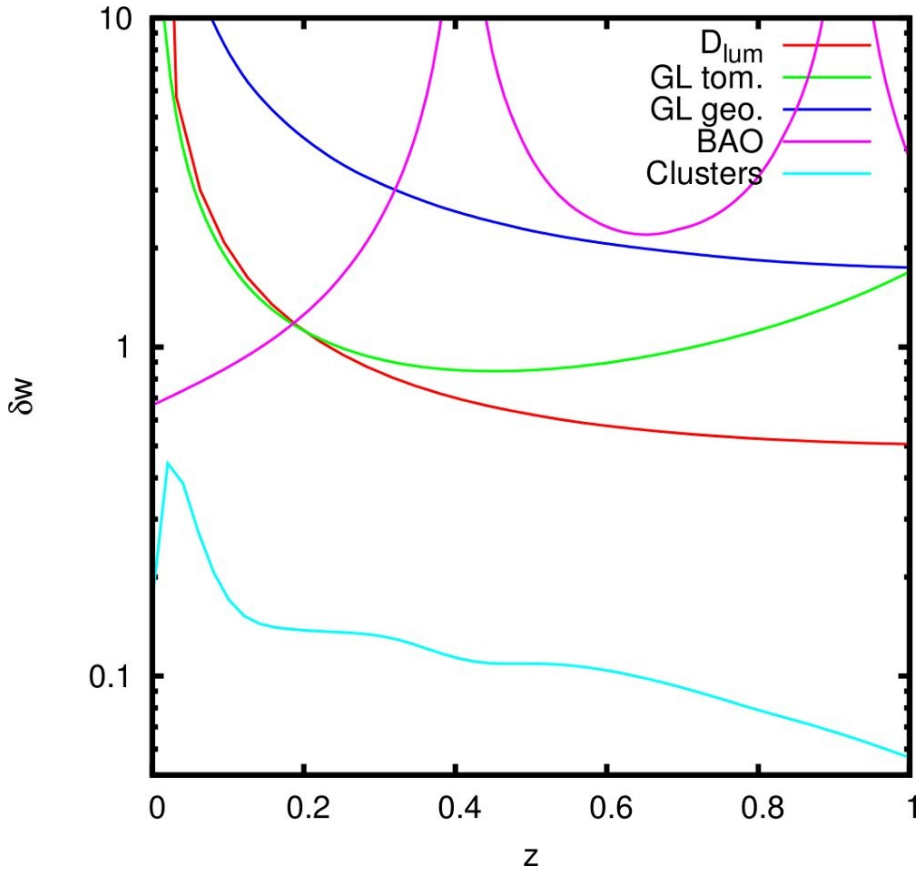
Sensitivity (2)





Sensitivity (3)





assuming S/N = 5 throughout