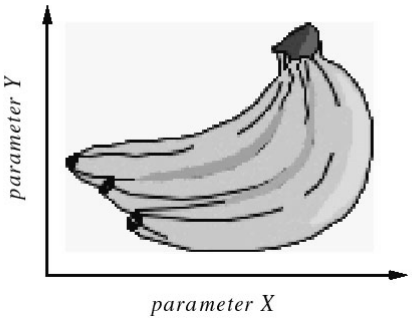
How did bananas get into physics?



"Dark Energy Equation-of-State w<-1", Robert Caldwell, Dartmouth College

What happens for w<-1? PHANTOM!

$\varrho +$

positive energy density
increases with time!
singular future!

$t \leq t_m$

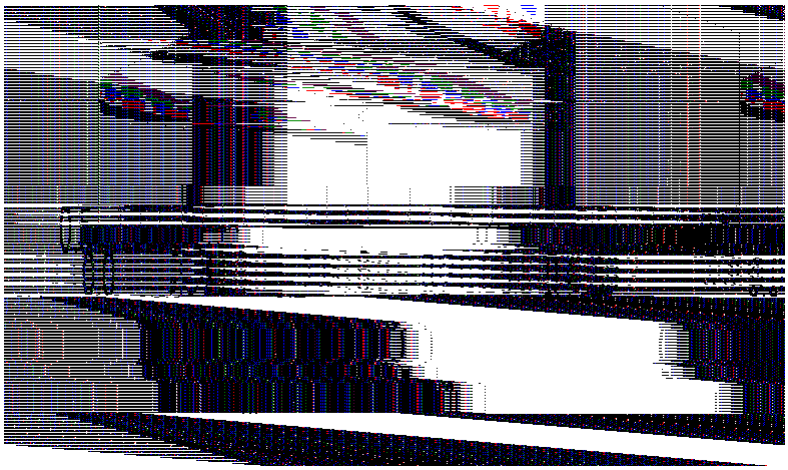
Late, *rapid* expansion

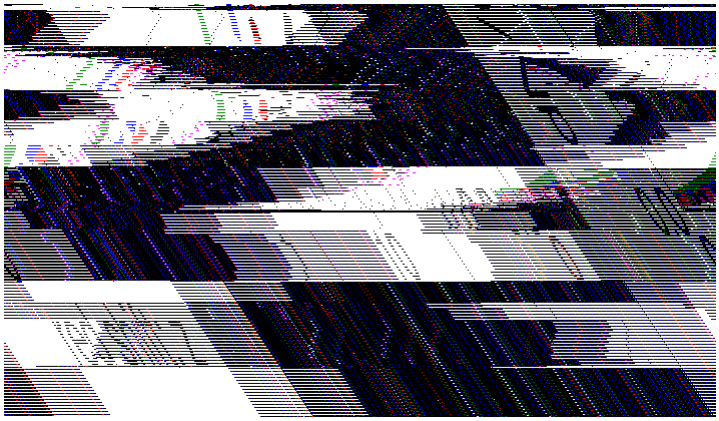
$.8(\Lambda) \rightarrow 0.4(w=-3)$

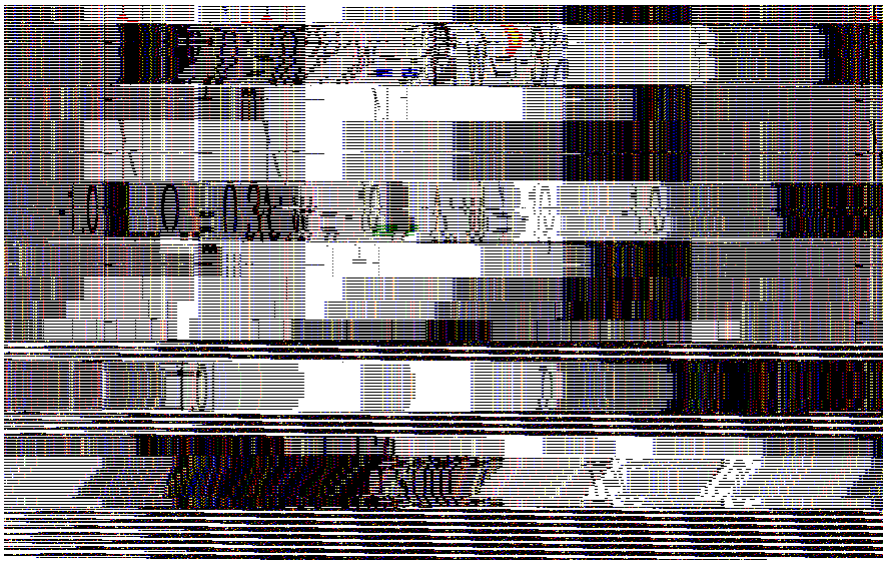
Older, bigger Universe

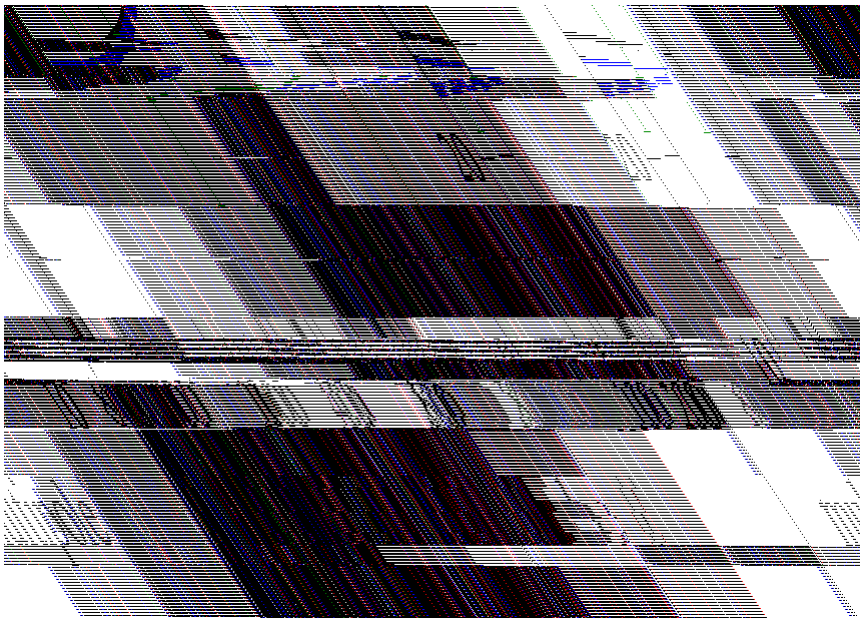
$\Omega \rightarrow$

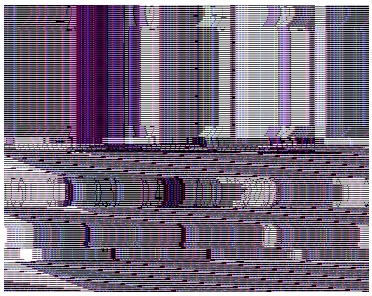
"A Phantom Menace?"
Caldwell, PLB 545, 23 (2002)
astro-ph/9908168



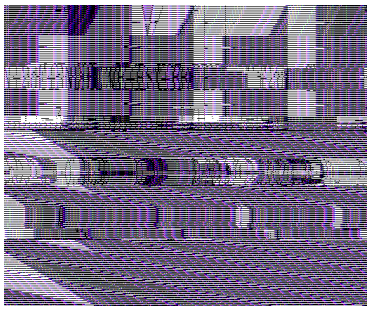


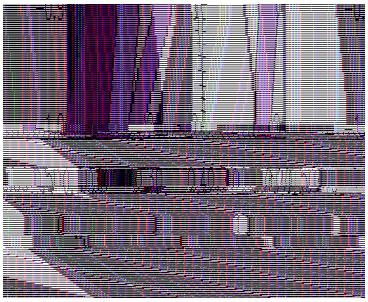




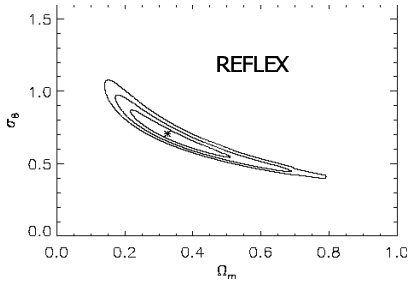


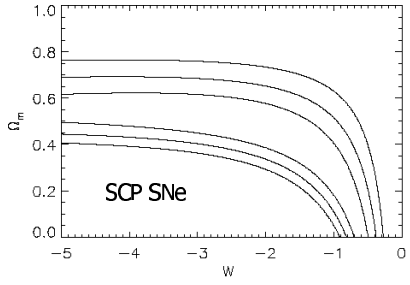
"Probing the Dark Side..."
Hannestad & Mortsell, PRD 66, 063508 (2002)

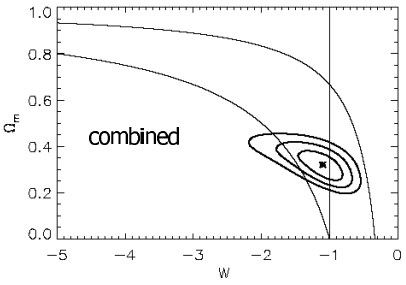




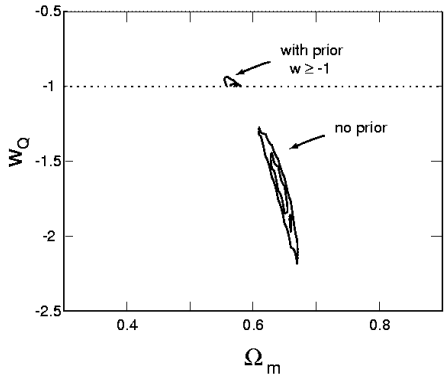
REFLEX X-ray clusters + SNe,
Schuecker et al, (forthcoming, 2002)







"Measuring the Equation-of-State of the Universe: Pitfalls and Prospects" Maor, et al, PRD 65, 123003 (2002)



The underlying model has w(z)>-1, but assuming constant w gives distorted results!

"A Phantom Menace?" Caldwell, PLB 545, 23 (2002) astro-ph/9908168

"Tensor to scalar ratio of phantom dark energy models," Schulz & White, PRD 64, 043514 (2001)

"Can w<-1?," Hoffman, Carroll, Trodden (in preparation, 2002)

"Kinetically Driven Quintessence," Chiba, Okabe, Yamaguchi, PRD 62, 023511 (2000)

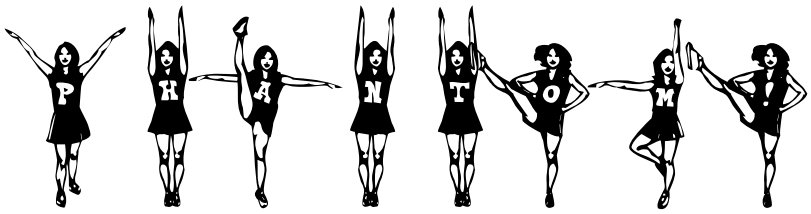
"Super Quintessence," Torres, PRD 66, 043522 (2002); Faraoni, IJMPD 11, 471 (2002)

"Vacuum Driven Metamorphosis," Parker & Raval, PRL 86, 749 (2001)

"Measuring the Equation-of-State of the Universe: Pitfalls and Prospects" Maor, et al, PRD 65, 123003 (2002)

"Probing the Dark Side…" Hannestad & Mortsell, PRD 66, 063508 (2002)

REFLEX X-ray clusters + SNe, Schuecker et al, (forthcoming, 2002)



Cheer:

Why not try w<-1?

Equation-of-state no one else has done.

It's faster than a Lambda, and stranger than a Q!

It fits most all the data and it might even be true…