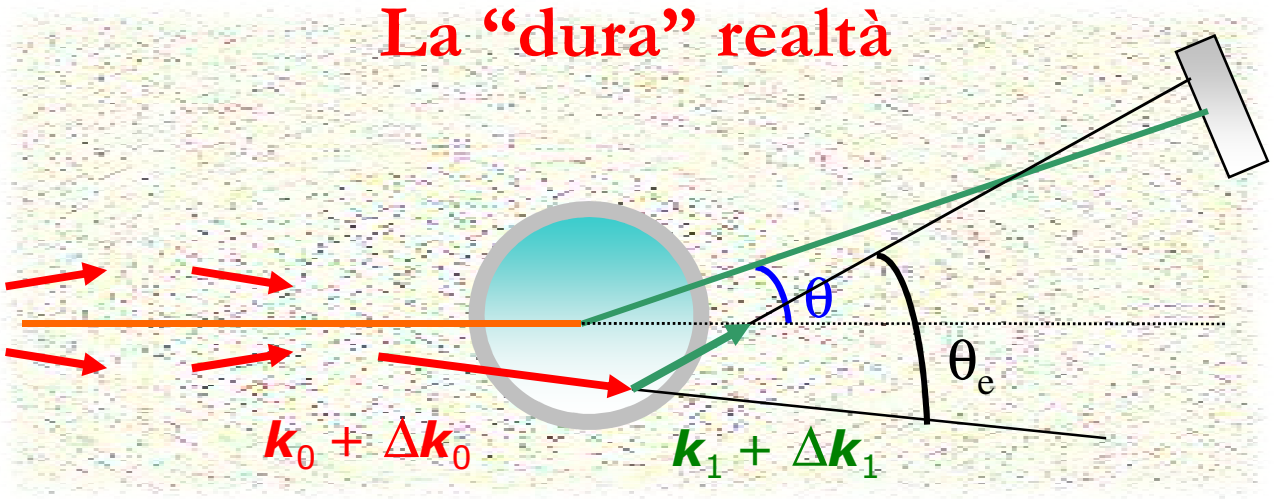
La "dura" realtà



Real sample Real instrument

Effect	Uncertainty on	Main consequence
Background noise (hopefully constant in time!)	Zero-signal level	
Beam divergence Focussing devices	θ, E_0, E_1	Affect Q and E resolution
Monochromating/analysing system imperfection: TAS → crystal quality TOF → pulse duration, flight paths	E_0, E_1	
Finite detector size	θ, flight path (E_0, E_1)	
Detector efficiency		Signal attenuation and distorsion
Container scattering and absorption	Bare sample signal	"Background", attenuation,MS
Sample absorption		Signal attenuation
Sample scattering		Multiple scattering
Finite sample size	θ, flight path (E_0, E_1, absorption)	Q and E resolution, multiple scattering
Incoherent/Coherent too and "complex"	…….	……..