

New challenges for coherent radiation spectroscopy

shorter bunches & less charge

FLASH short pulse mode (new photo-injector laser)	< 100 fs	20 pC	0.5-1.2 GeV
<i>FLASHforward</i> : beam driven plasma wakefield	≤ 10 fs	10 pC - 100 pC	0.5-1.2 GeV
LWPA @ REGAE	3 - 10 fs	< 1 pC	5 MeV

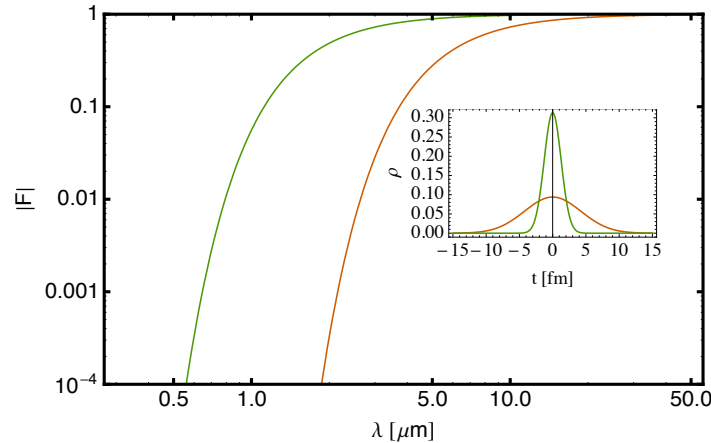
challenging

close to impossible

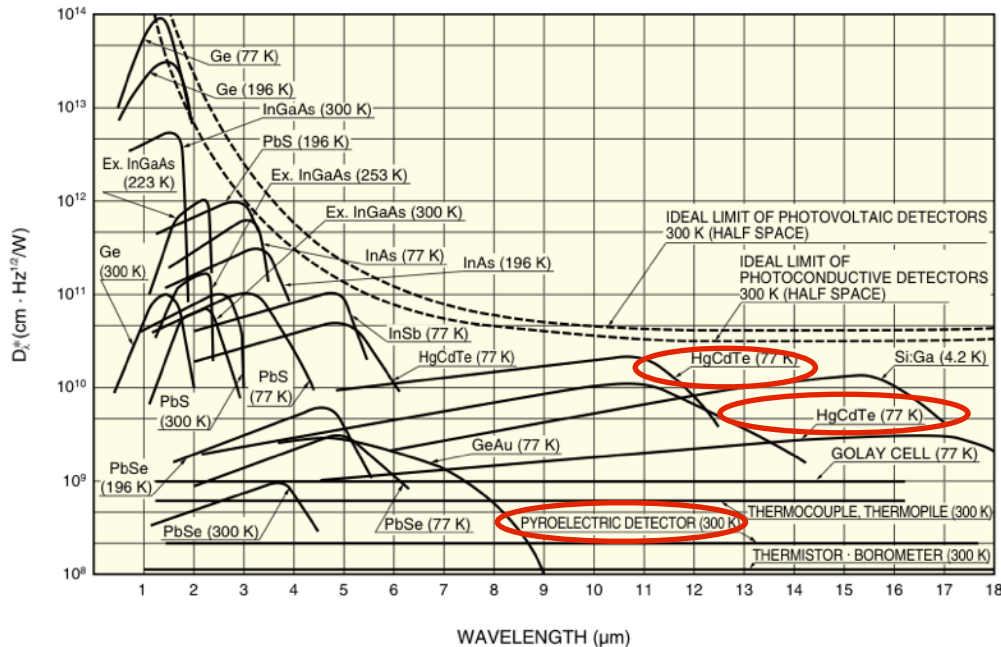
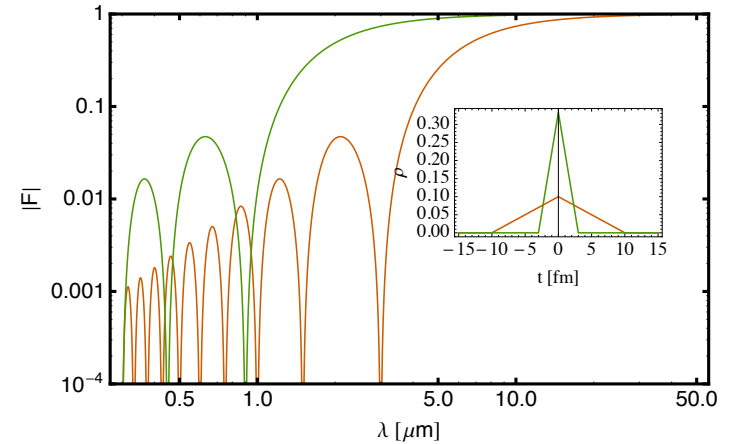


shorter bunches - less charge

example: bunches with 10 fs and 3 fs length (FWHM)



wavelength range < 20 μm



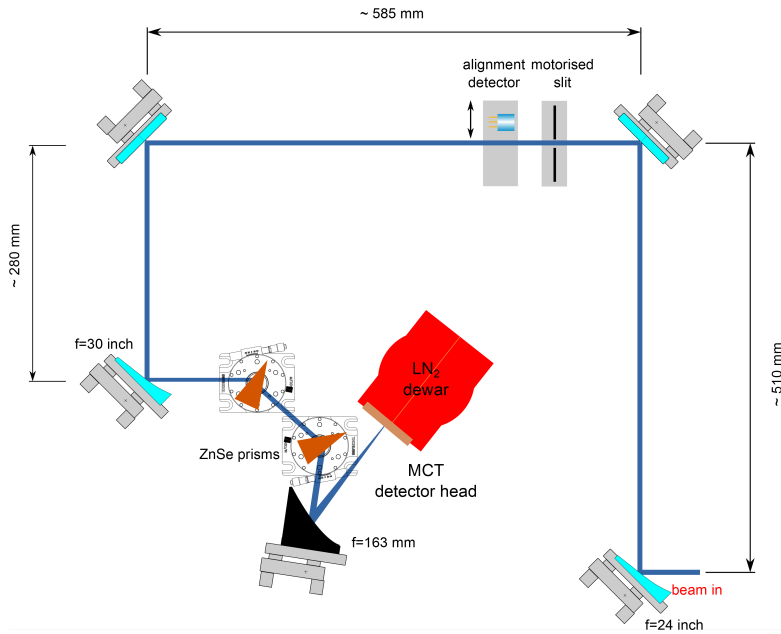
more sensitive detectors (than pyros)

cryogenic HgCdTe sensors

- single element
- line array



Solution : MIR prism spectrometer



working device !

don't miss : S. Wunderlich @ his poster