

# **Selected news on PANDA-EMC**

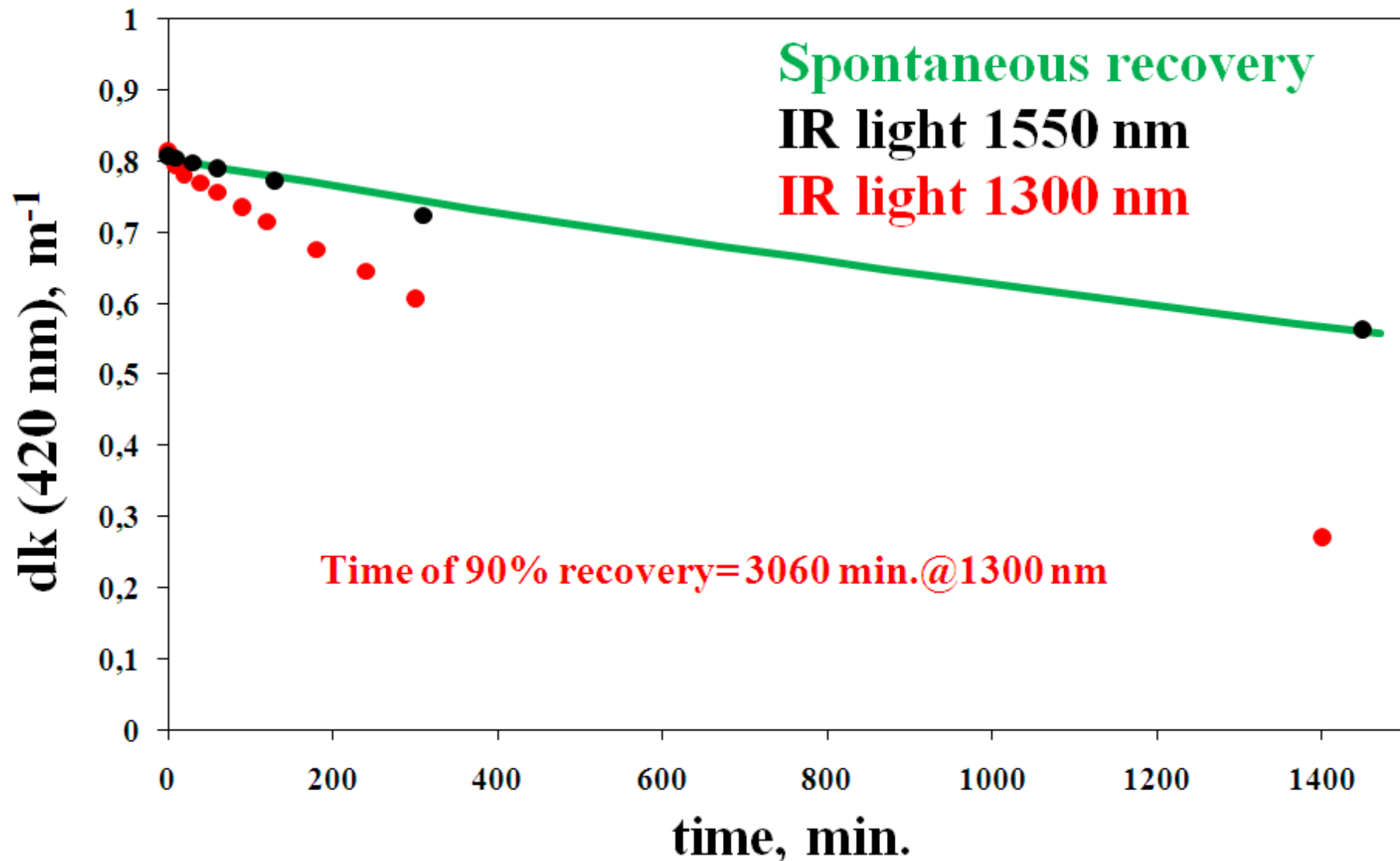
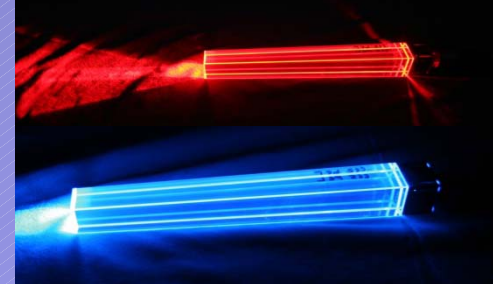
**R. Novotny**

**EMC-Meeting Dec. 7, 2010**

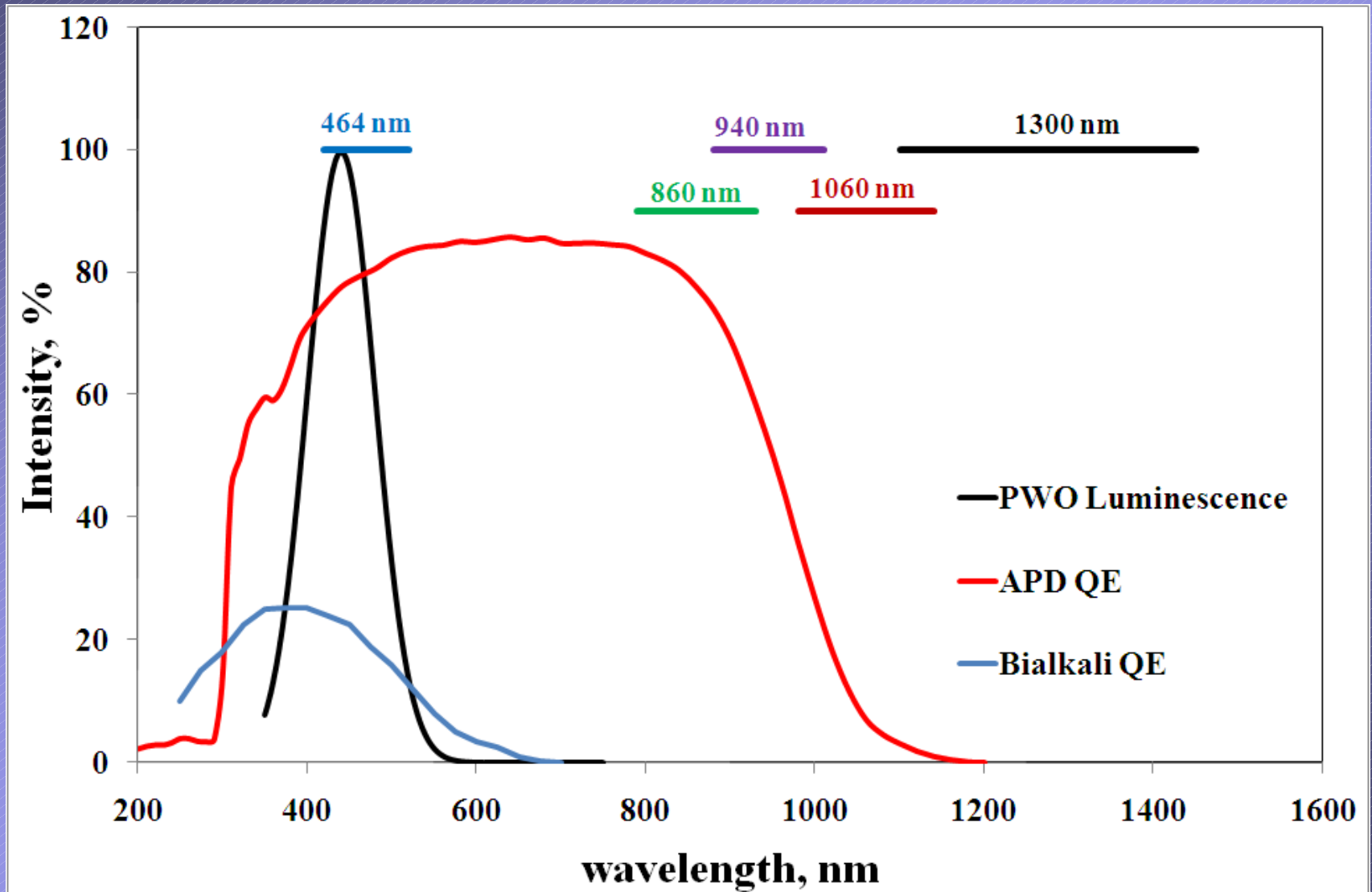
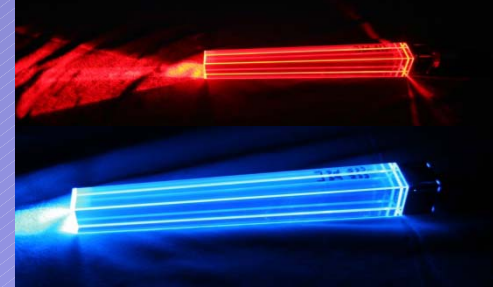
# status on quality control

Type		Lot B1 - B4	Lot B5	Lot B6	Lot B7	Lot B8	Lot B9
End Cap		4400					
Backward EC						70	630
Barrel	Type 1	375		270	695		
	Type 2					140	
	Type 9			330	325		
	Type 10					120	
<b>Total</b>		<b>4775</b>		<b>600</b>	<b>1020</b>	<b>330</b>	<b>630</b>
<b>Delivered?</b>		✓		✓	✓	✓	✓
<b>Completely analyzed?</b>		✓		✓	✓	(X)	X

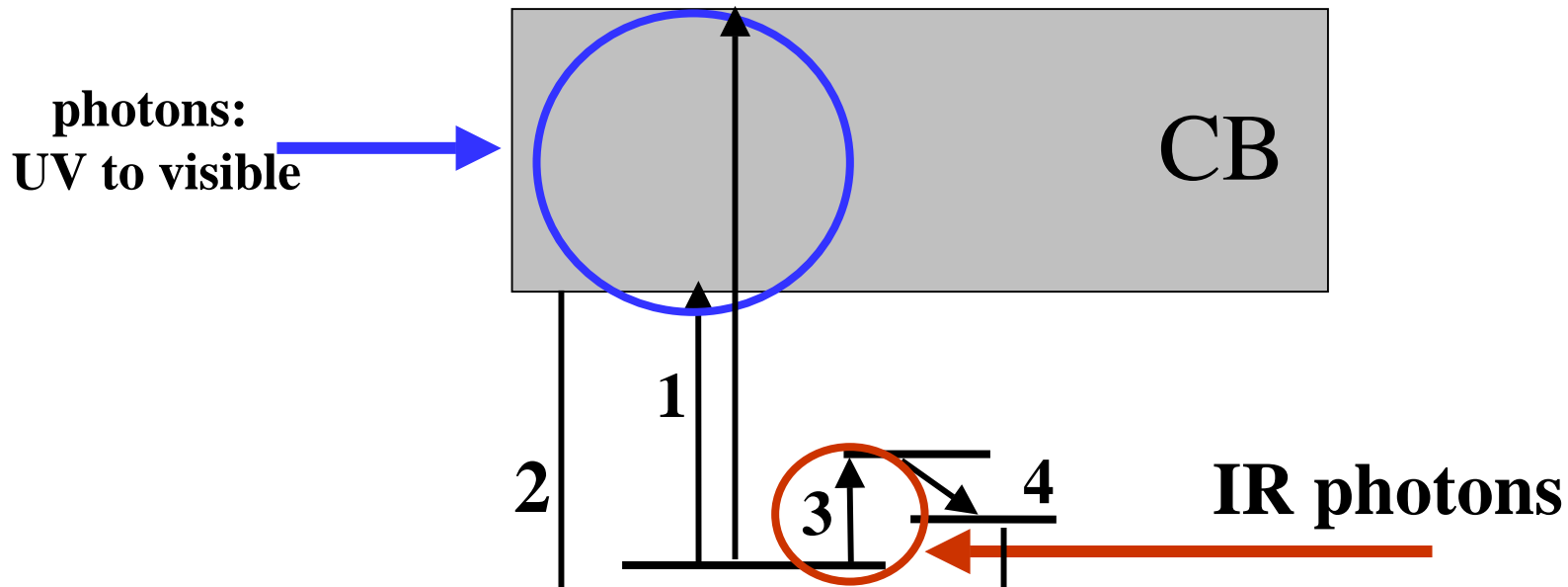
# latest news on stimulated recovery - 1



# latest news on stimulated recovery - 2



# ionization and stimulation processes in PWO



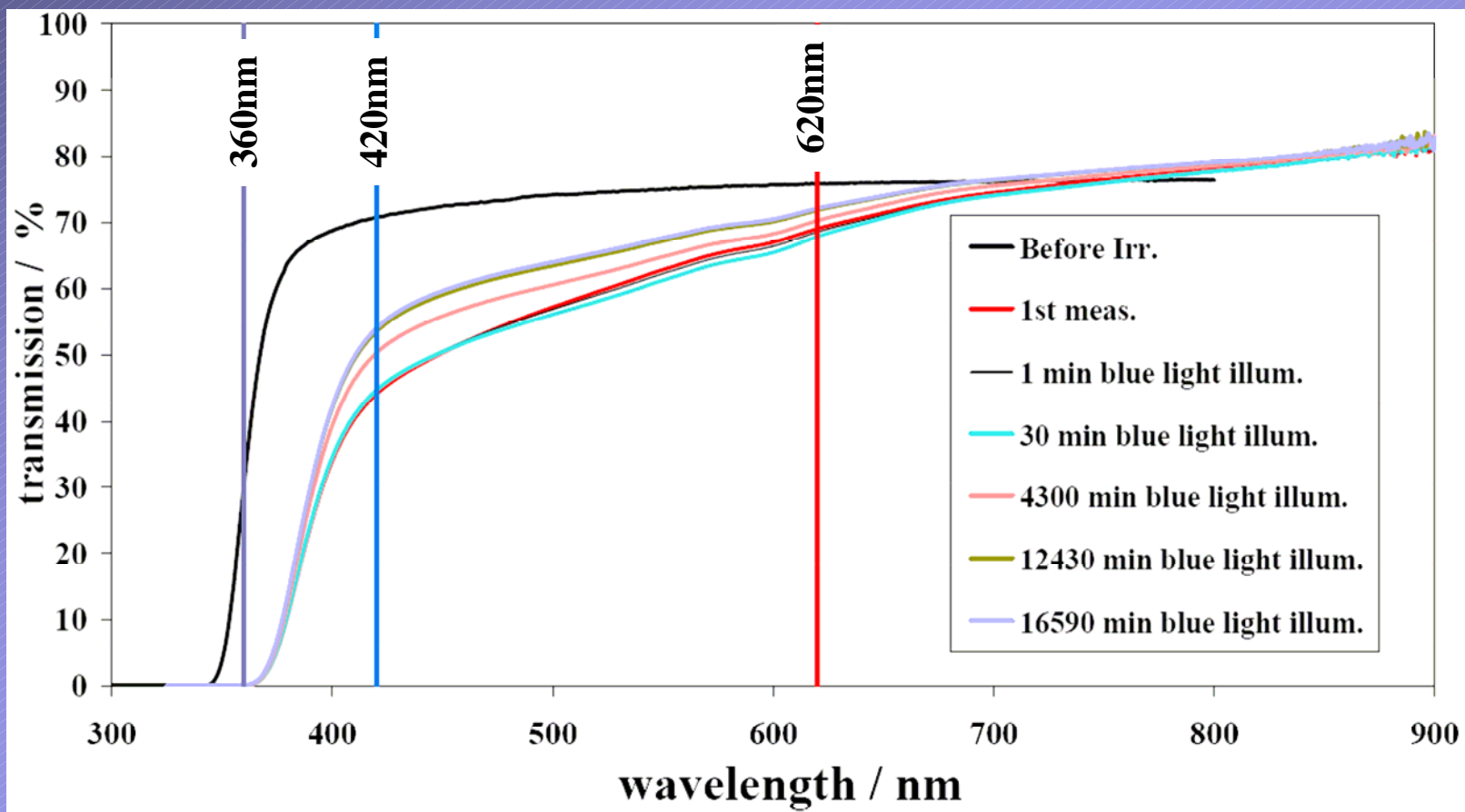
- detailed studies with EPR measurements have been started
  - FP7 – proposal has been submitted
- collaboration Prague-Milano-Riga-KVI-Uppsala-GI-GI-Minsk

**1** ionization of  $\text{FTD}_0$ ,    **2** radiative/non-radiative recombination,  
**3** intra-center absorption in  $\text{FTD}_0$ ,    **4** non-radiative relaxation,  
**5** radiative/non-radiative recombination of  $\text{FTD}_0$ .

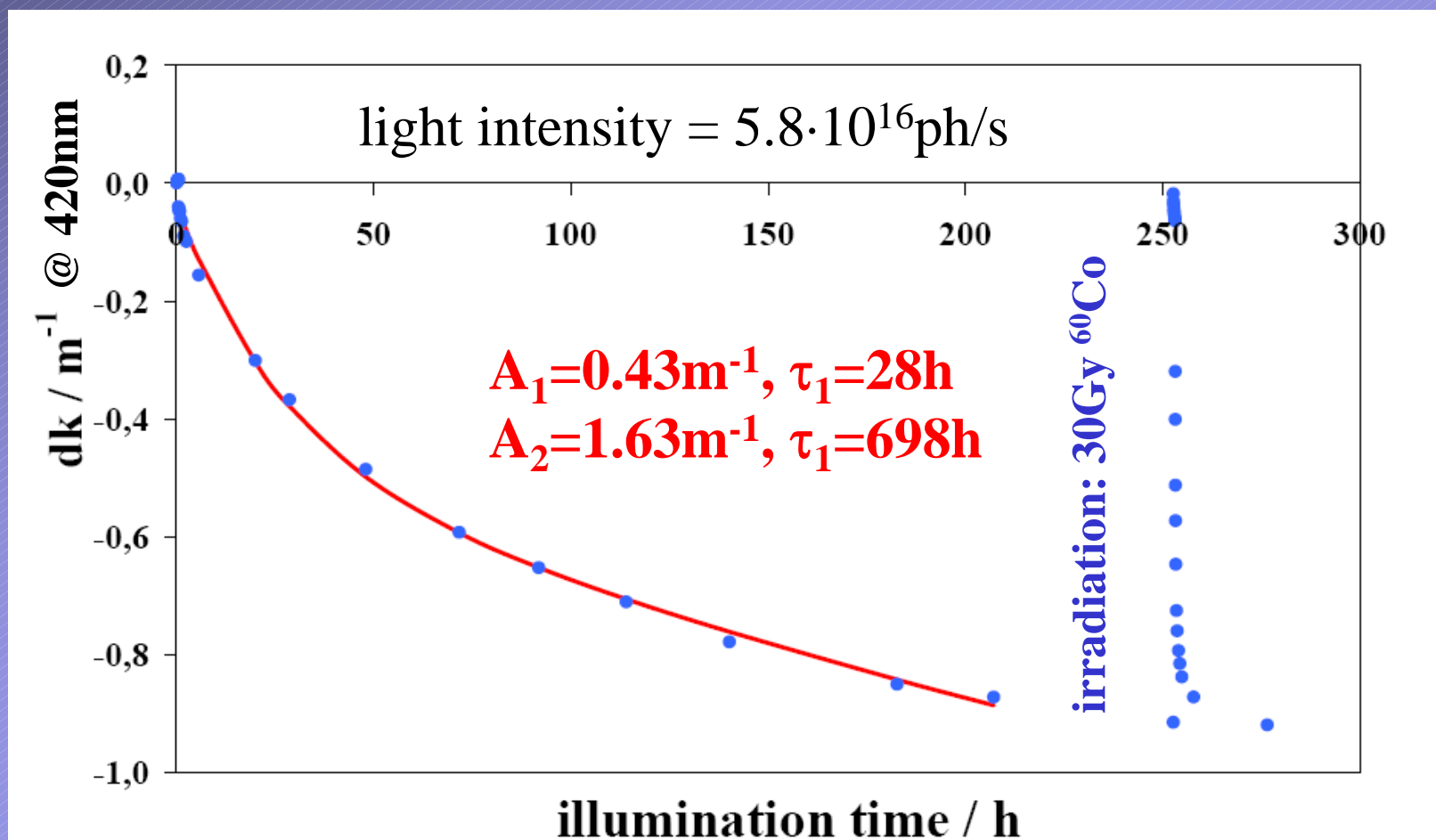
# first attempt of recovery of damage due to protons

in collaboration with F. Nessi-Tedaldi et al.

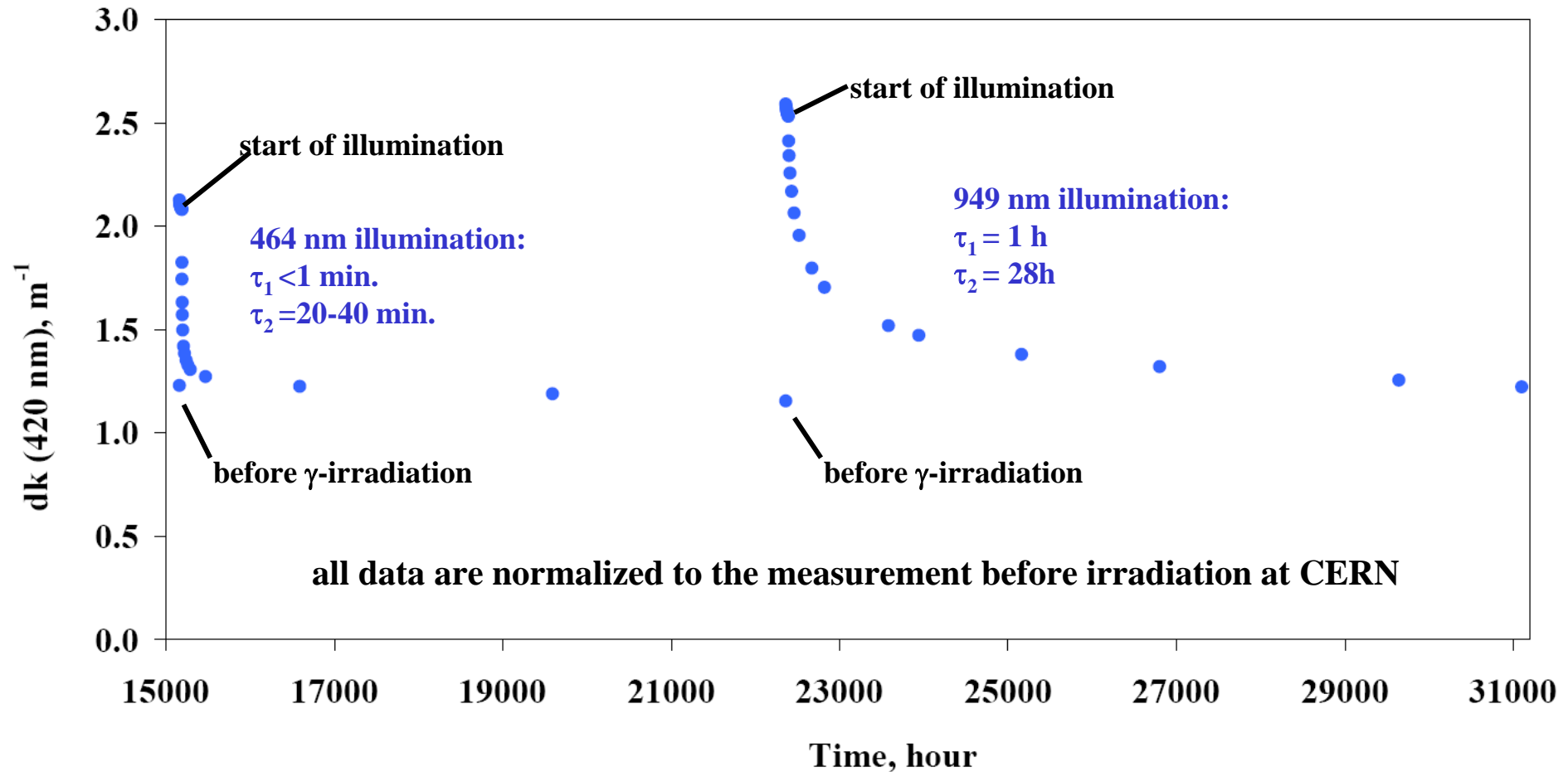
total fluence of 24 GeV/c protons:  $(9.87 \pm 0.69) \cdot 10^{12}$  p/cm<sup>2</sup>



# first attempt of recovery of damage due to protons

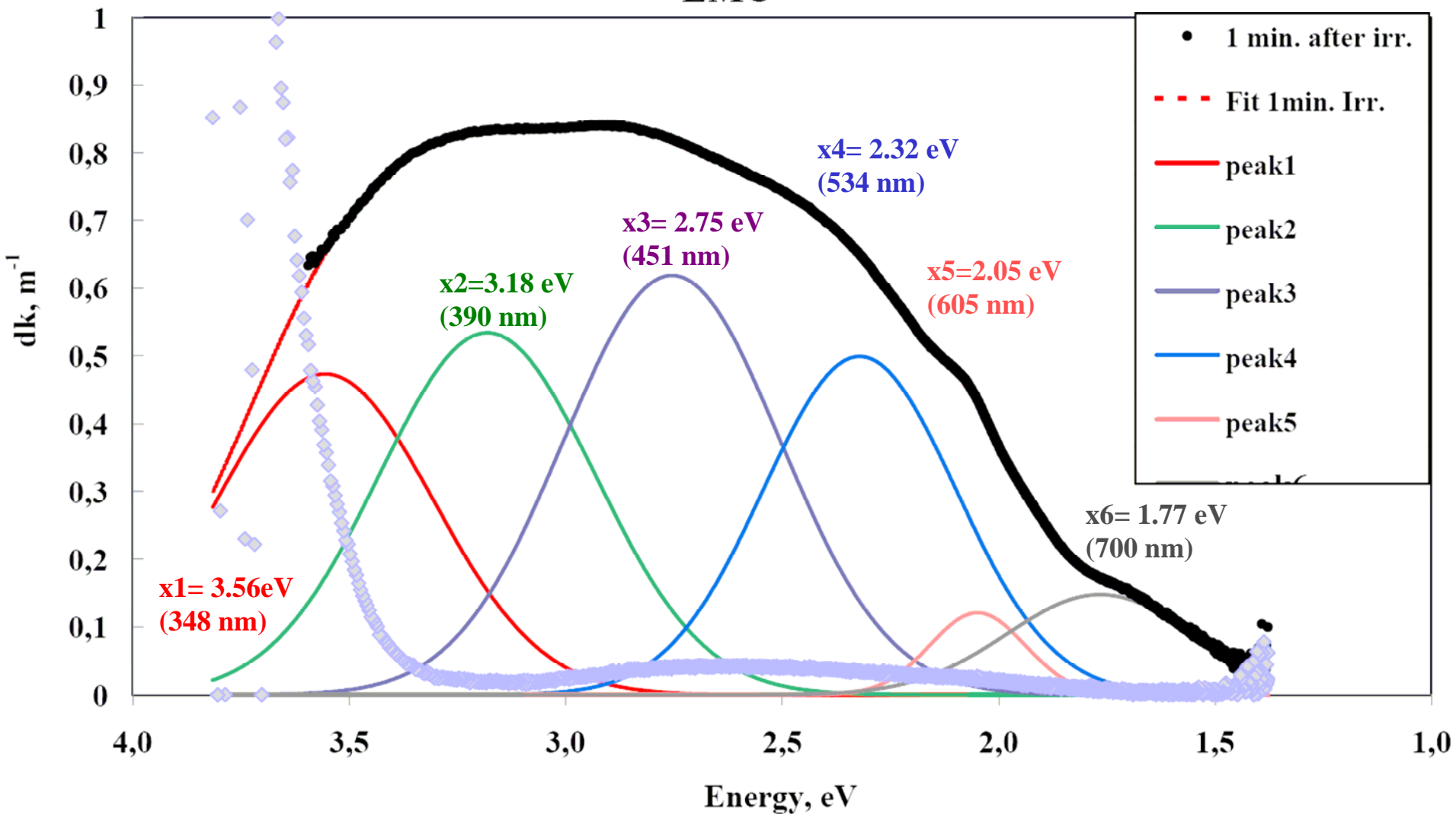


**Fig. 5 Recovery stimulation of p-irradiated CMS PWO crystal with different photon colors after first stimulation and repeated irradiation with  $^{60}\text{Co}$**

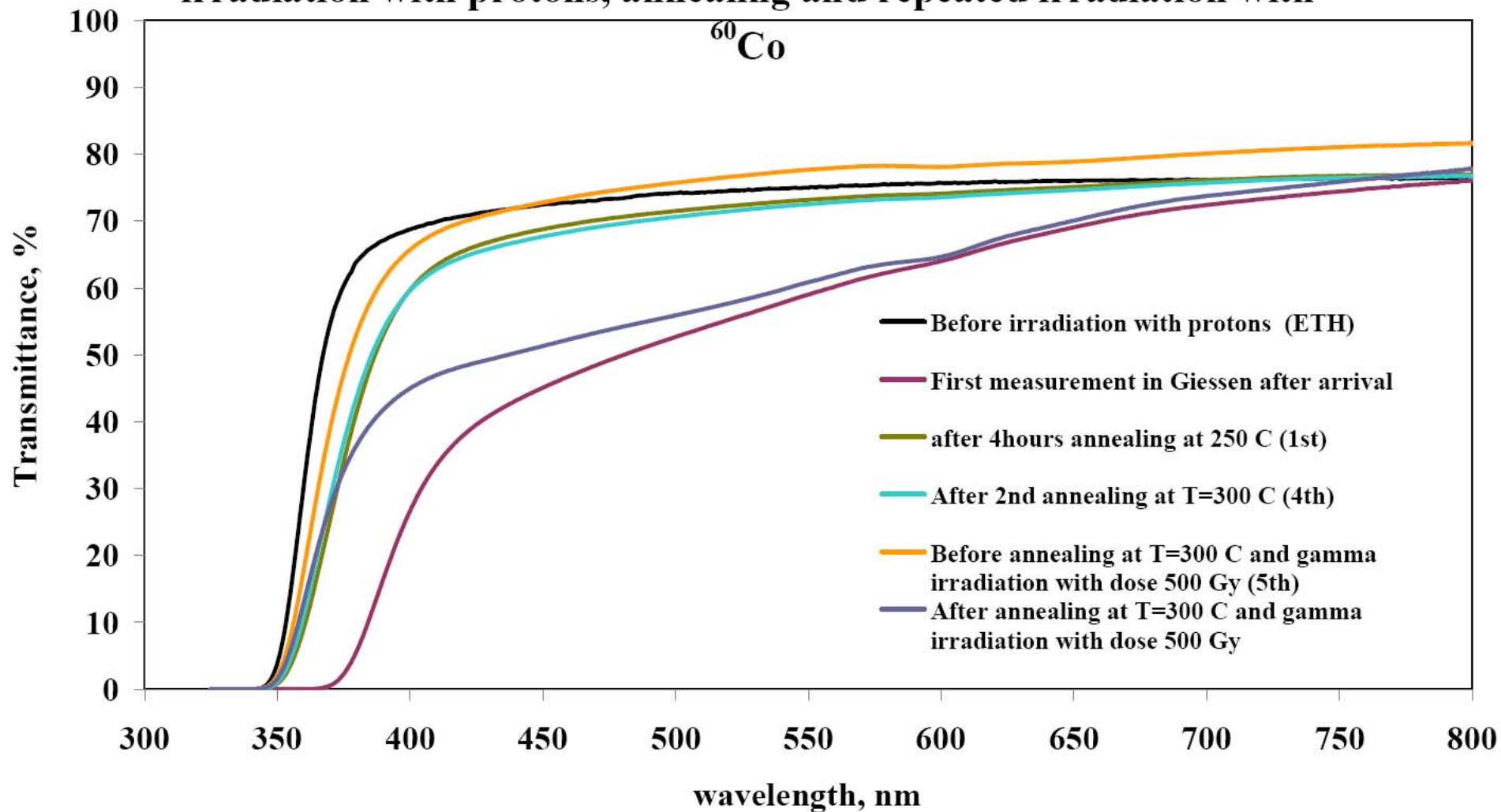




**Fig.8 Induced absorption spectrum of PWO-II crystal of PANDA  
EMC**



**Fig.11 Change of the CMS PWO longitudinal transmission after irradiation with protons, annealing and repeated irradiation with  $^{60}\text{Co}$**



**Fig.12 Induced absorption spectrum of CMS PWO crystal after irradiation with protons, stimulated recovery, annealing at 300C and irradiation with 60Co (500 Gy)**

