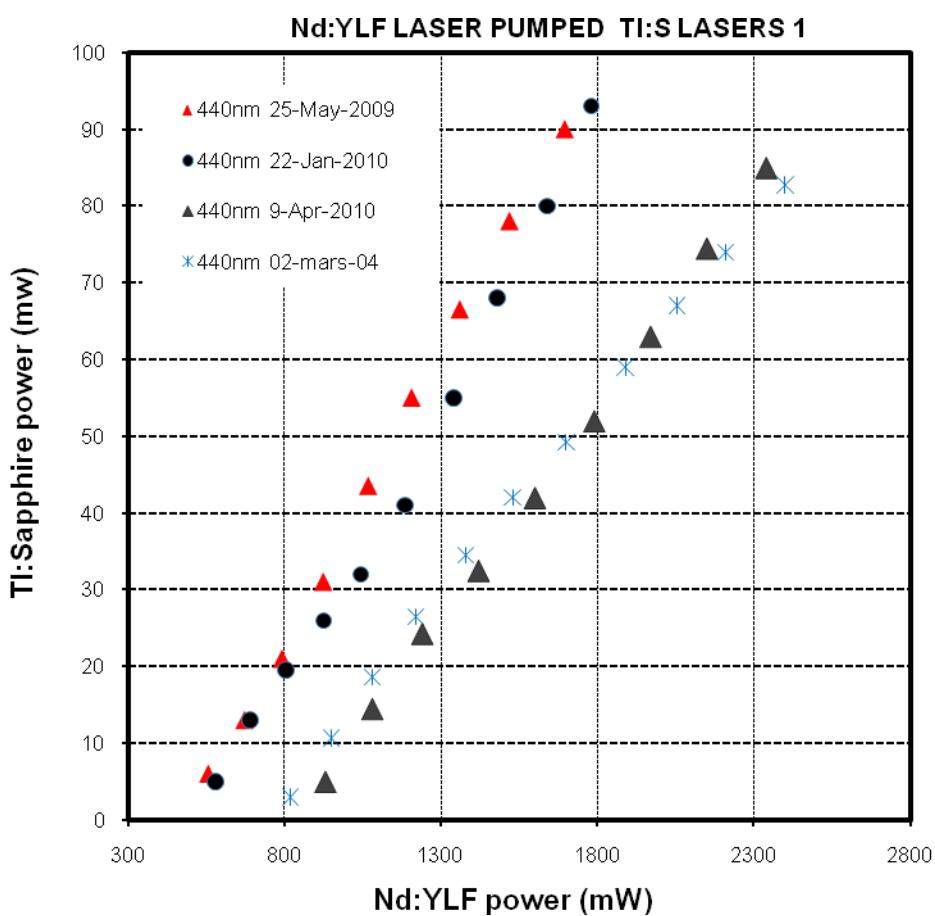
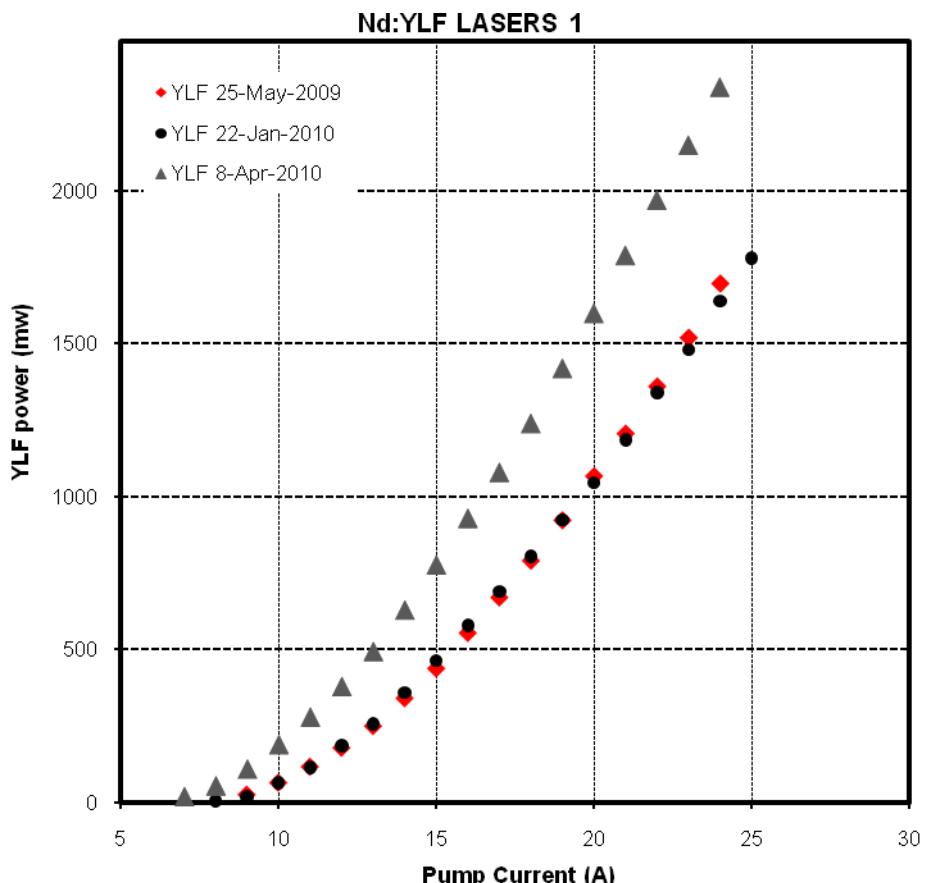


# Laser1

New crystal ROD Assy.

ETH=24950 hrs



**From Jan, tuning of YLF didn't help. Changing Qswitch and/or RF driver didn't help.**

Unstability of pulse - rising edge spread of IR pulse too high !

In January, still OK: TiS jitter = 2.8ns short time but Feb. Online with Ecal, TiS unstable.

**ETM= 24941 hrs**

**janv-10 YLF tuning, check Q-switch , IR pulse, new LAMP**

T(IR) =

3) + Qswitch, CW mode	8A
10A	1,08 W
15A	10,3 W
20A	23 W

4) 1KHz T(IR) = 9,3 A

15A	5,9 W
20A	14,35 W <i>was 12W in 2007</i>
25A	24,7 W

5) + HT@1053nm/HR@527nm , CW

6) + 334 SHG, CW

9A	163 mW
15A	9 W
20A	20,5 W

7) 1KHz T green = 9,5 A

15A	4,8 W
20A	12,9W
25A	22,3 W <i>FWHM= 500ns, was 200ns before (2007)</i>

8) remove 12% T mirror, 100Hz:

1810mW@23A      20 JANUARY  
PULSE: jitter OK , 5ns but NOT energy: 21 %  
so TiS energy not stable --> 15%

**16 Feb:** YLF tuning from scratch

1) Spherical lens		2) + Cylindrical lens		3) + Qswitch, CW mode	
	920		740		800
10A	mW	10A	mW	10A	mW
15A	8 W	15A	8,4 W	15A	8,7 w
20A	17 W	20A	19,4 W	20A	19,2 W

## 4) 1KHz

15A 5 W  
20A 11,2 W FWHM=200ns  
24 A 16 W try to get pulse stable - oscillation

## 5) + HT@1053nm/HR@527nm , CW

15A 9,5 W  
20A 21,3 W

## 6) + 344 SHG, CW

15A 8,8 W  
20A 20 W

## 7) 1KHz

T green = 9,4 A

15A 4,3 W  
20A 10,5 W pulse , large jitter

**10-16 March, + 26 March**

YLF tuning...

**7 April: New crystal**

1) Spherical lens

10A	3,9W
15A	18,5W
20A	37 W
25A	57,5W

2) + Polarizer

10A	
15A	15,5w
20A	31,8W
25A	49,6W

3) + Qswitch, 1KHz (OK CW)

10A	1,1 w
15A	7,1 W
20A	14,2W
25A	19 W

4) + Cylindrical lens, 1KHz

15A	6,9 W
20A	13,5 W
25A	20,6 W

5) + HT@1053nm/HR@527nm , CW

15A      12 W                    before, 14W but power lower CW to get nice pulse

6) + 334 SHG, 1

KHz

15A	5,5 W
20A	12,5 W    FWHM = 156 ns, jitter ~5ns
25A	18,6 W

8) remove 12% T mirror, 100Hz:

see calibration table.

**23A --> 2120 mW, FWHM= 112 ns**

Quantronix value CW mode:

**Table with Power values in W**

I(A)	Only Spherical	+ Polarizer	+ Q-Switch 1KHz	+ Cylindrical lens	+ HT/HR, CW	+ LBO, 1KHz
15	18,5	16	7,1	6,9	12	5,5
20	37	32	14,2	13,5		12,5
25	57,5	50	<b>19</b>	20,6		<b>18,6</b>

## Value in 2007, new crystal

Quantronix value CW mode: **46W @ 25A**

**Table with Power values in W**

I(A)	Only polarizer	+ Sphe + CYL	+ Q-Switch CW	Q-Switch 1KHz	Pulse width (ns)	+ HT/HR	+ LBO CW	1Khz
15	12		11.7	5.5		11	10.5	4.7
20	27		26.1	12.2	380	24.8	23.7	11
25	<b>44</b>	idem	43	<b>19</b>	210	41.3	39.6	<b>17.3</b>
26	47		45.8	20.1	178			
27	50		49.2	21.3	150			

Current A	YLF		440nm
	8-Apr-2010	9-Apr-2010	
7	20		
8	55		
9	110		
10	190		
11	280		
12	380		
13	494		
14	630		
15	778	T = 15.4A	
16	930	5	
17	1080	14,5	
18	1240	24,3	
19	1420	32,5	
20	1600	42	
21	1790	52	
22	1970	63	
23	2150	74,5	
24	2340	85	
25	2530		