

# Test data

Of Cr:Forsterite regenerative amplifier system FREGAT-200

Date: 19 Feb 09

1. Central wavelength , nm	1238
2. Pulse duration, fs	100 +/- 3
3. Pulse energy, $\mu\text{J}$	190 - 210 *)
4. Repetition rate, Hz	200 - 1000
5. Beam diameter, mm	2.3 mm
6. Beam quality	TEM <sub>00</sub>

\*) depends on crystal temperature

## 1. Spectrum of output radiation

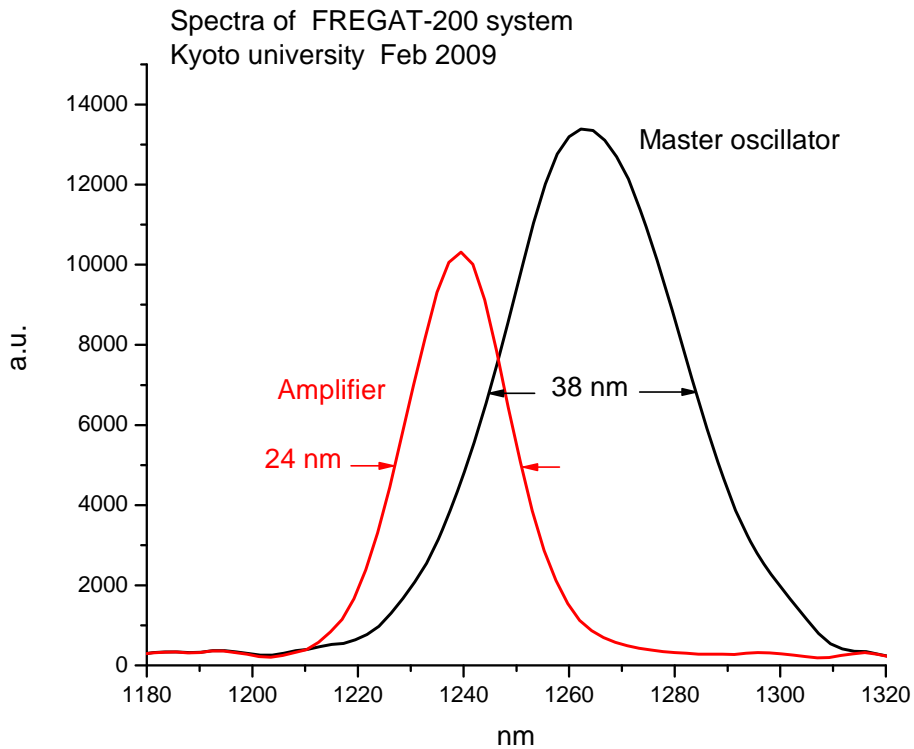


Fig.1 Spectrum of RegA output.  
Spectrometer Stellar Net InGaAs linear sensor, spectral resolution of 3 nm.

## 2. Pulse duration

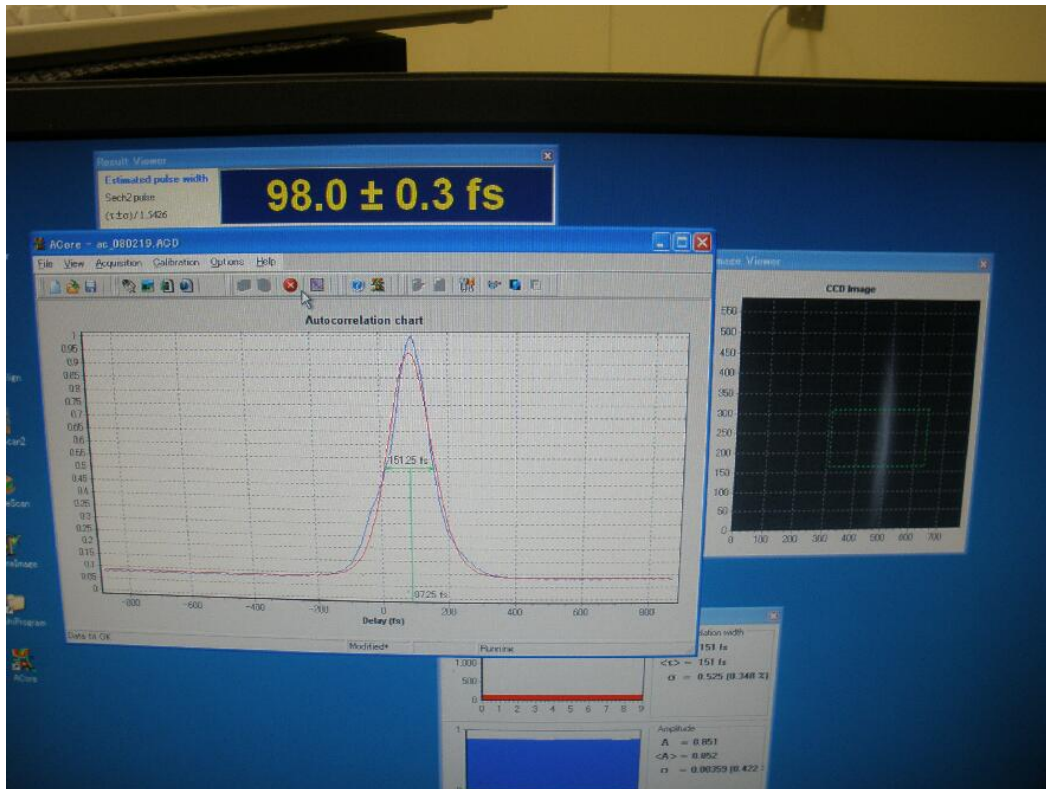
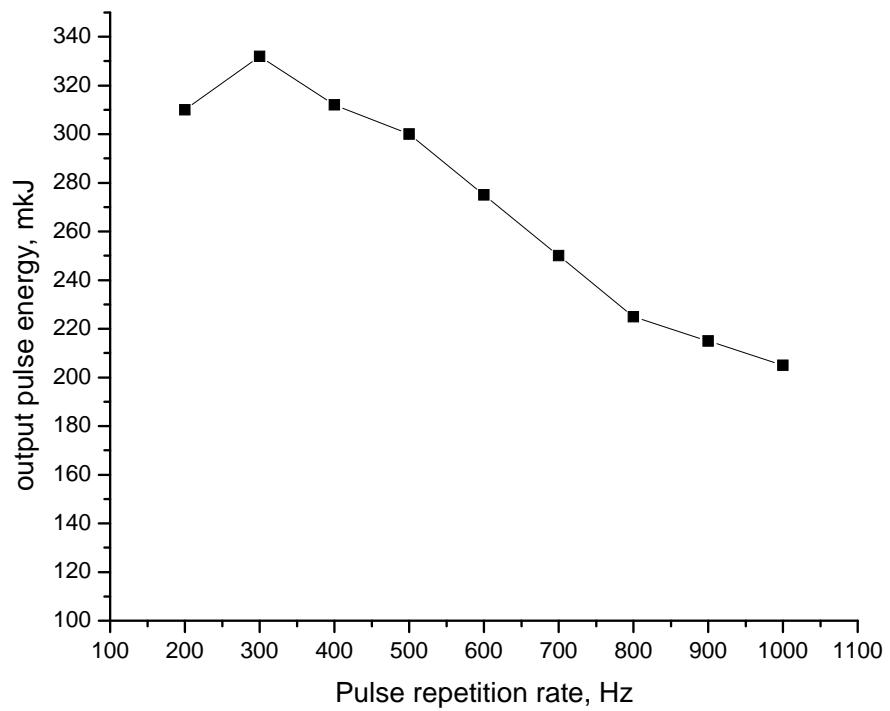


Fig.2. Single shot autocorrelation function of pulse output of RegA. Single-shot autocorrelator ASF-1 (Avesta-Project Ltd, time resolution 3 fs).

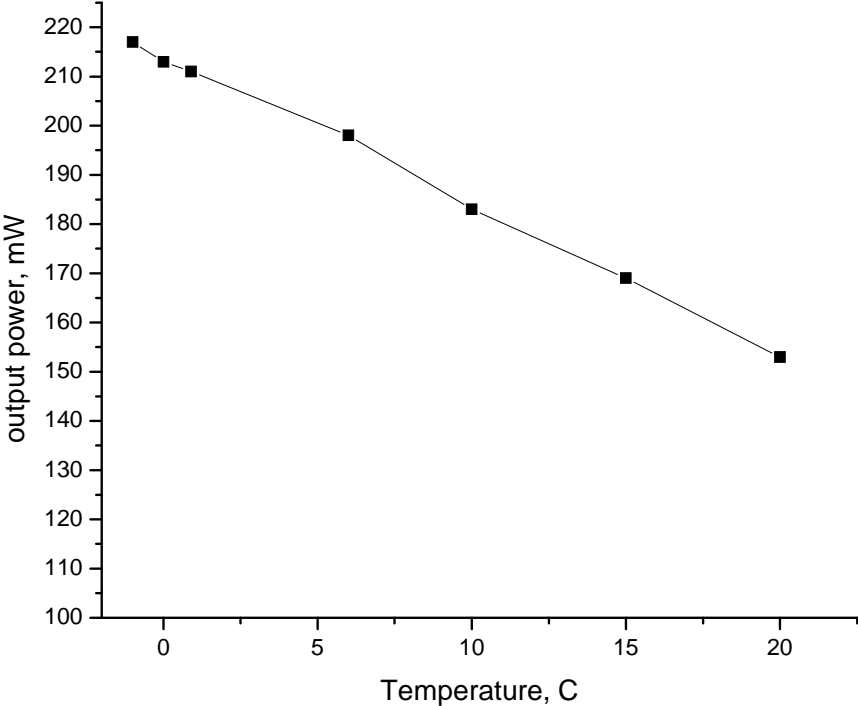
### 3. Energy of output pulse

Pulse repetition rate, Hz	200	300	400	500	600	700	800	900	1000
Pulse energy, $\mu\text{J}$	310	332	312	300	275	250	225	215	205

FREGAT-200 output pulse energy from pulse repetition rate



FREGAT-200 output power from crystal temperature



#### 4. Output beam quality

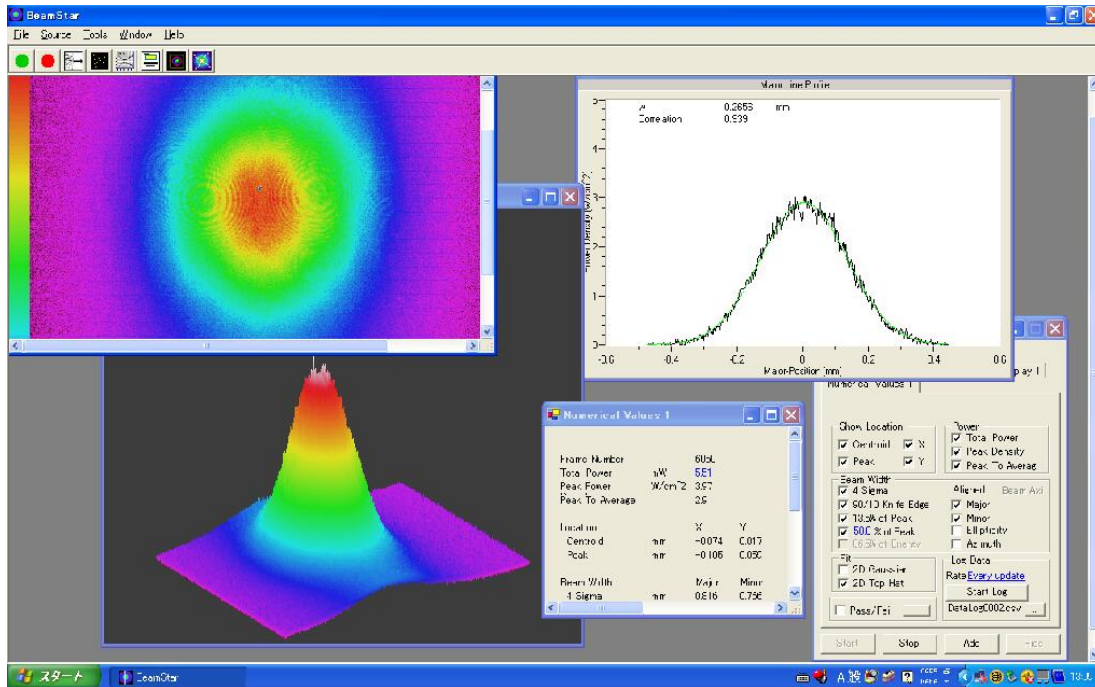


Fig.4 Output beam profile. CCD camera 640x480.