Special Technologies
laser-based systems and solutions

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Average power at different lines of CO_2-laser series *ZT* (tunable)

Pump – RF, power of RF generator ~ 1400 W, operating conditions 100 Hz/100 μs.

Lasing lines and corresponding average power are shown in the following table.

Line	Wavelength	Average laser power, ±5 mW	Line	Wavelength	Average laser power, ±5 mW
10P(56)[1]	11.0160[1]	170	10R(2)	10.3814	279
10P(54)[2]	10.9888[2]	—	10R(4)	10.3652	374
10P(52)[13]	10.9621[13]	30	10R(6)	10.3493	395
10P(50)[1]	10.9359[1]	82	10R(8)	10.3337	420
10P(48)[1]	10.9101[1]	170	10R(10)	10.3184	483
10P(46)	10.8847	200	10R(12)	10.3035	475
10P(44)	10.8598	230	10R(14)	10.2888	452
10P(42)	10.8352	272	10R(16)	10.2744	466
10P(40)	10.8111	283	10R(18)	10.2604	466
10P(38)	10.7874	301	10R(20)	10.2466	492
10P(36)	10.7641	326	10R(22)	10.2332	500
10P(34)	10.7411	345	10R(24)	10.2200	491
10P(32)	10.7186	349	10R(26)	10.2071	460
10P(30)	10.6964	396	10R(28)	10.1946	469
10P(28)	10.6746	400	10R(30)	10.1823	429
10P(26)	10.6532	418	10R(32)	10.1703	455
10P(24)	10.6321	428	10R(34)	10.1586	482
10P(22)	10.6114	442	10R(36)	10.1475	471
10P(20)	10.5910	433	10R(38)	10.1362	398
10P(18)	10.5710	418	10R(40)	10.1254	362
10P(16)	10.5514	412	10R(42)	10.1148	390
10P(14)	10.5321	402	10R(44)	10.1046	265
10P(12)	10.5131	436	10R(46)	10.0947	252
10P(10)	10.4945	431	10R(48)[3]	10.0851[3]	150
10P(8)	10.4762	395	10R(50)[3]	10.0757[3]	55
10P(6)	10.4582	406			
10P(4)	10.4406	339			
10P(2)	10.4233	172			

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Line	Wavelength	Average laser power, ±5 mW	Line	Wavelength	Average laser power, ±5 mW
9P(52)[3]	9.8569[3]	52	9R(2)[3]	9.3805[3]	21
9P(50)	9.8355	101	9R(4)	9.3673	159
9P(48)	9.8145	153	9R(6)	9.3544	262
9P(46)	9.7938	184	9R(8)	9.3418	244
9P(44)	9.7734	237	9R(10)	9.3294	247
9P(42)	9.7533	200	9R(12)	9.3172	353
9P(40)	9.7335	274	9R(14)	9.3054	344
9P(38)	9.7140	314	9R(16)	9.2938	362
9P(36)	9.6948	265	9R(18)	9.2824	325
9P(34)	9.6760	239	9R(20)	9.2714	285
9P(32)	9.6574	271	9R(22)	9.2605	283
9P(30)	9.6392	322	9R(24)	9.2499	303
9P(28)	9.6212	306	9R(26)	9.2396	331
9P(26)	9.6036	338	9R(28)	9.2295	390
9P(24)	9.5862	301	9R(30)	9.2197	390
9P(22)	9.5692	309	9R(32)	9.2101	271
9P(20)	9.5543	275	9R(34)	9.2007	226
9P(18)	9.5360	227	9R(36)	9.1916	212
9P(16)	9.5198	251	9R(38)	9.1827	235
9P(14)	9.5039	258	9R(40)	9.1741	159
9P(12)	9.4884	351	9R(42)[3]	9.1656[3]	145
9P(10)	9.4731	239	9R(44)[3]	9.1575[3]	82
9P(8)	9.4581	208			
9P(6)	9.4433	243			
9P(4)	9.4289	90			

Notes:

1 — line was not confirmed with wavelength meter because of its technical limitation. The line was determined according to the theoretical sequence.

2 — laser radiation unstable. Correct measurements of the parameters were impossible. Wavelength (line) was excluded from calibration table.

3 — radiation stable, but laser pulse width is less than 100 μs due to laser emitter limits.

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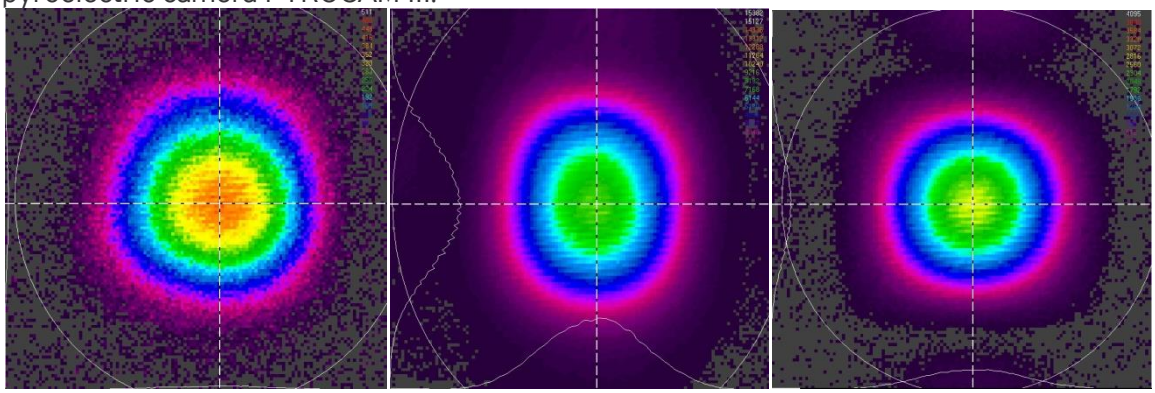
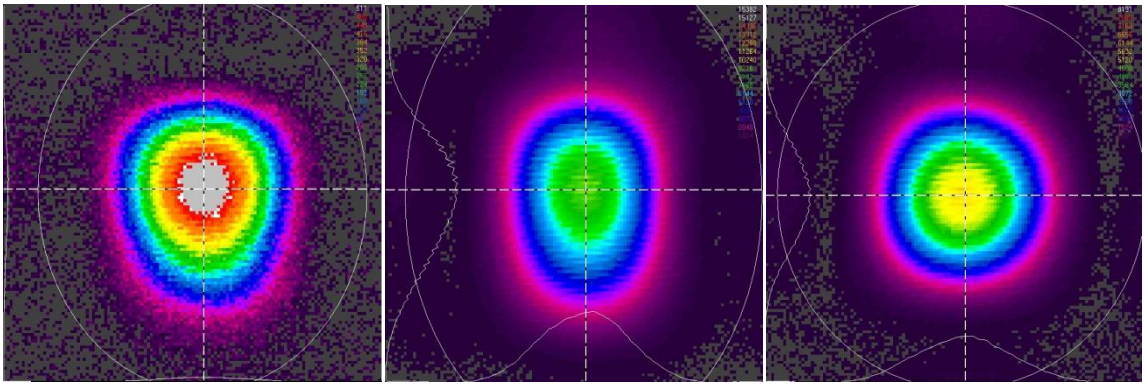
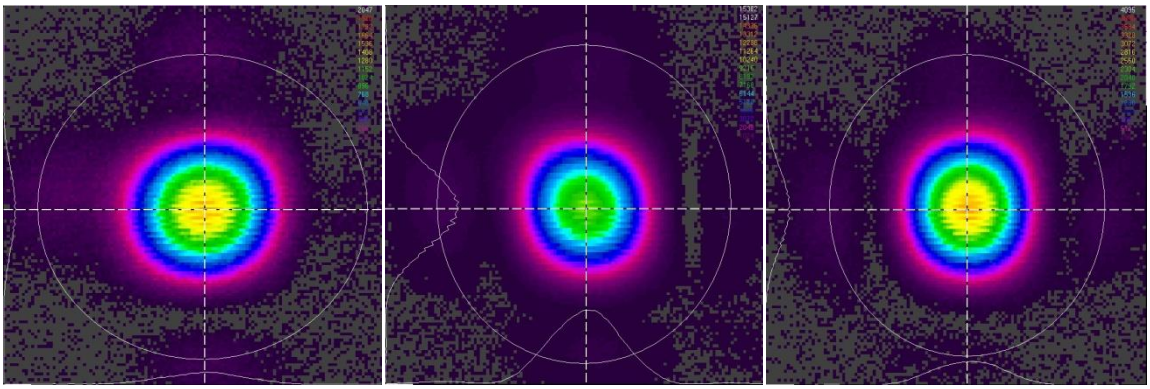
The laser beam intensity distribution for different lines. The pictures were made with pyroelectric camera PYROCAM III.



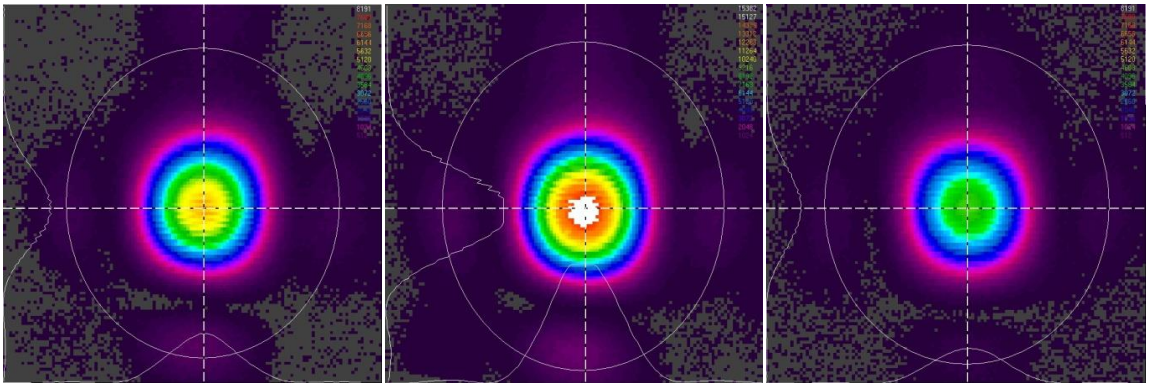
10P46 10P20 10P2



10R44 10R20 10R2



9P44 9P20 9P4



9R34 9R20 9R4