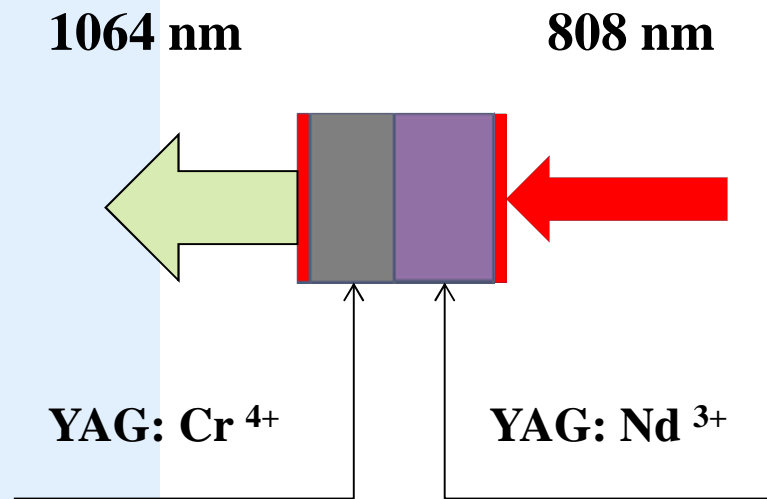


# **High-frequency laser based on a "microchip» YAG: Nd / YAG: Cr with frequency-doubled for systems of spacecraft trajectory measurements.**

V.B.Burmistrov<sup>1</sup>, A.A.Koltsov<sup>1</sup>, V.A.Romanyuk<sup>2</sup>, E.V.Tesnovskiy<sup>1</sup>, A.V.Shestakov<sup>2</sup>,  
Yu.A.Shipilov<sup>2</sup>

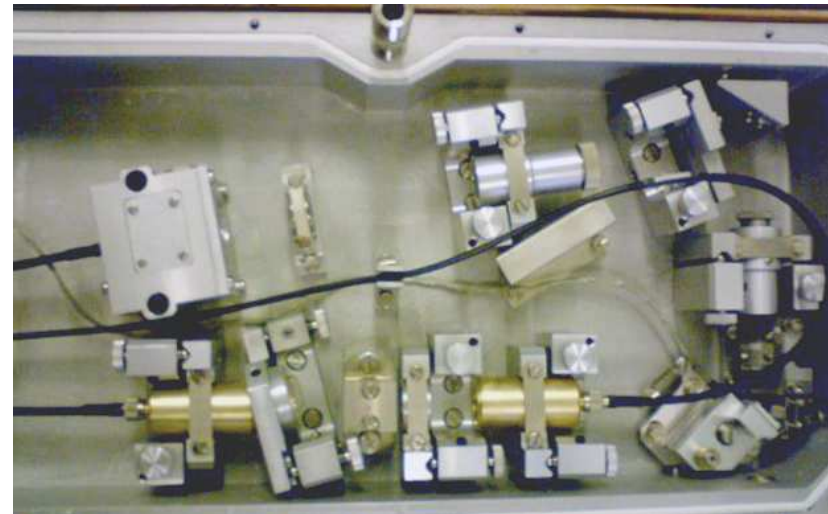
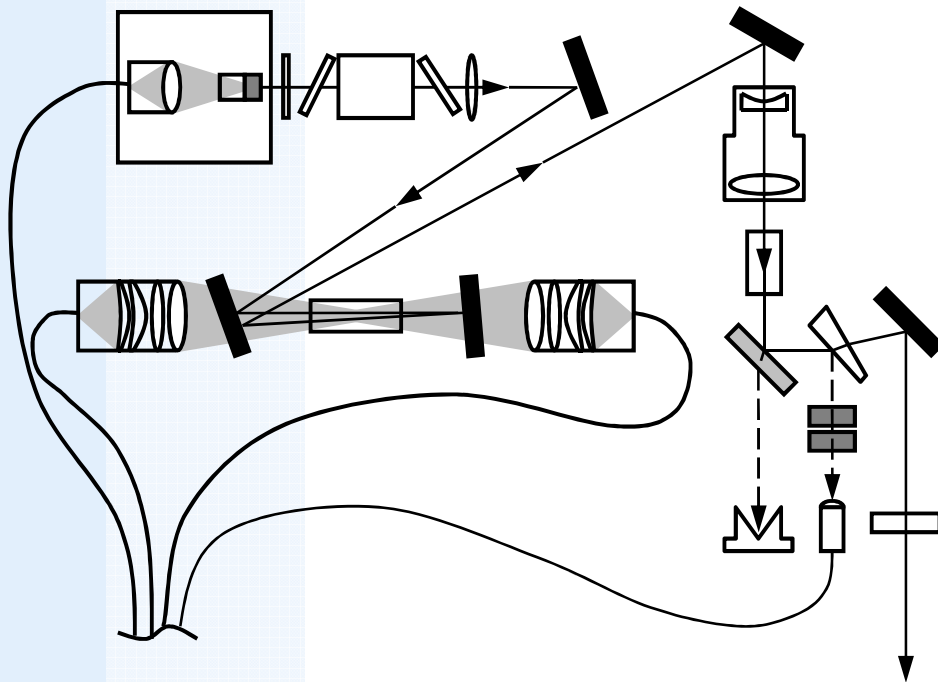
<sup>1</sup>- JSC "NPC" SPP", Moscow, <sup>2</sup>- LLC RPC "ELS-94"

# Microchip



1 cm

## Optical scheme of the laser



## The spatial and energy and temporal characteristics of the laser

<b>Wavelength <math>\lambda</math>, nm</b>	<b><math>532.1 \pm 0.025</math></b>
<b>Energy of the laser pulse, mJ</b>	<b>2.5, at least</b>
<b>Width of the laser pulse at the 0.5 level of amplitude, ps</b>	<b>250, no more</b>
<b>Frequency of the laser pulse, Гц</b>	<b><math>300 \pm 15</math></b>
<b>Divergence of the laser beam at the output level <math>1/e^2</math>, mrad</b>	<b>1, no more</b>

## Operating conditions

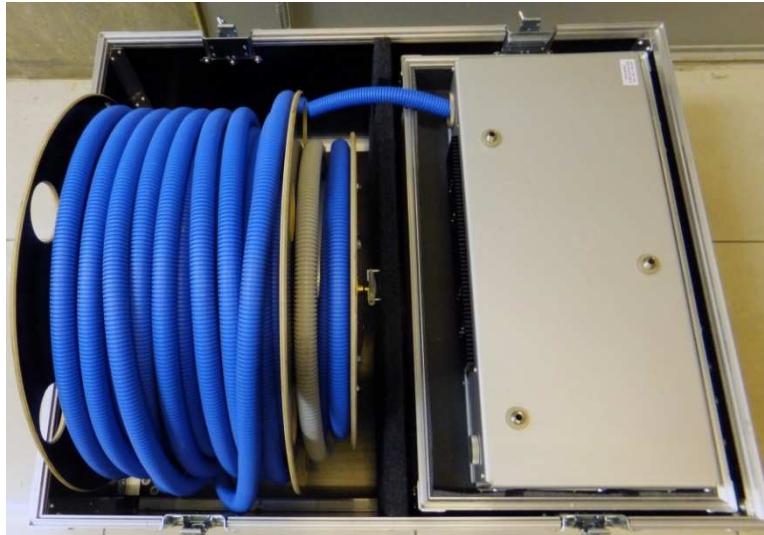
### Laser emitter

<b>Temperature</b>	<b>From - 40 °C to + 50 °C</b>
<b>Atmospheric pressure</b>	<b>from 450 to 790 mm Hg. Art.</b>
<b>Relative humidity</b>	<b>no more 80 %, at +25 °C</b>

### Power supply and control

<b>Temperature</b>	<b>from +15 °C to +30 °C</b>
<b>Atmospheric pressure</b>	<b>from 450 to 790 mm Hg. Art.</b>
<b>Relative humidity</b>	<b>no more 80 %, at +25 °C</b>

## Laser emitter



## Power supply and control



## Laser in the system “Sajen-TM-D”

