Press Release

Raicol Crystals Ltd. Is Announcing a New SKTP Crystal – Promising High Average Power Density, High Efficiency, and Large Aperture Capabilities

Rosh Ha`Ayin, Israel – Thursday, January 18, 2018

Raicol Crystals Ltd., a leading manufacturer in the field of non-linear crystals, has become the first to develop SKTP flux-grown KTP crystals. These new crystals are a part of the HGTR product line, and have a revolutionary combination of features - they can function at high average power densities, retaining high efficiency, and can also be produced in a larger aperture, up to 25x25 (mm^2). SKTP crystals are designed for use in medium power green lasers for medical, industrial, scientific, and other applications.

Until now, KTP crystals have been the standard option for the second-harmonic generation of laser sources. Although very efficient, KTP crystals are unable to handle high average power densities. When such a crystal is subjected to high power, high repetition rate laser pulses, or CW laser irradiation, gray tracks form. These gray tracks can accumulate and burn the crystal, leading to the eventual deterioration of harmonic conversion.

Alternatives such as LBO crystals have been introduced, compromising on efficiency to enable functionality at a higher average power density. HGTR KTP – High Gray Track Resistant KTP - provides another answer – for high average power density, and increased efficiency. The drawback here is that these crystals can only be made for apertures up to 6x6 mm^2. To overcome this limitation, Raicol has researched and developed the new and unique SKTP crystal, which has a gray track resistivity almost equivalent to HGTR KTP.

The SKTP crystal is superior to both KTP and LBO crystals. SKTP can work with high average power densities up to 3 kW/ cm^2, at 532 nm, enabling effective gray track resistance. Its expected life-time is at least 8x that of standard KTP. SKTP is also four times more efficient than LBO. The greatest innovation, however, lies in the ability to produce the SKTP crystal in any size, for apertures up to an impressive 25x25 mm^2. For applications where large crystals are required, SKTP is the only effective solution that also provides excellent grey track resistance.

According to Yehiel Plaut, Sales and Marketing VP, Raicol Crystals Ltd., “The development of SKTP crystal is really good news for customers who use KTP and HGTR Crystals, and even LBO at medium /high laser power systems.

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Up until now, the only suitable solutions for laser systems that could not utilize KTP crystals, due to high laser power, were HGTR KTP crystals with superior gray track resistance to power density, although only available in small apertures, or LBO crystals that can withstand such high-power density.

The SKTP crystal offers high KTP efficiency, and almost same gray track resistance capabilities of HGTR**,** while also enabling large apertures to reduce the surface power density."

About Raicol Ltd.

Raicol Crystals Ltd. specializes in the manufacture of high quality nonlinear optical crystals and electro-optic devices. Founded in 1995, Raicol is a privately-owned technology company, based in Israel.

Raicol's site boasts a state-of-the-art, brand-new manufacturing facility, equipped with the latest technologies - proprietary growth systems, cutting equipment, polishing machines, X-ray measurement systems, clean rooms, an optical shop, and a coating facility. In addition, the site features high-end internal testing capabilities (LDT, spectrophotometer, and absorption). This advanced equipment, together with unparalleled knowledge and expertise, enables Raicol to achieve maximum quality and reliability for each and every product manufactured.

Raicol Ltd. has ISO 9001 certification, meeting high global standards for quality control. We are also NASA certified.

To download our SKTP product page:

http://raicol.com/wp-content/uploads/SKTP-3-PRINT_WEB_2PGS.pdf

For more information, visit our website: www.raicol.com

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