









#### **4. Conclusion**

We demonstrated that diode-pumped Cr:LiSAF laser which incorporates an optically-addressed SBR is an efficient, compact, simple and reliable tool for biological applications where optical tweezing of the object should be accompanied with two-photon luminescence from a trapped particle. We believe, this method of optically addressing the SBR could be implemented in a Ti:sapphire laser with higher output powers [2] and pumped with blue laser diodes [8] to create a compact real-time multitasking platform for bio-photonics applications.

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