

**Progress of the Solar Pumped Lasers Program**

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Solar pumped lasers are candidates for wireless power transmission in space[1], free space optical communication and photochemistry[2]. The present paper describes the progress of a joint project to develop solar pumped lasers, focusing on temporal and spectral shaping of the laser beam, which comply with those applications. The project is part of ConSolar Consortium for Concentrated Solar Energy, and is conducted by three parties: Rotem Industries, Weizmann Institute[3] and Ben-Gurion University. The program emphasizes design, fabrication and testing of laser rods, passive and active Q-switches and non-linear crystals. Research is carried on in four projects, the first being a study for possible applications, to determine the required solar pumped laser specifications. In the second project, the solar tower facilities at Weizmann Institute are used for laser components development[4]. The third project includes the construction of an innovative 7.5 kW solar concentrator at TEMED industrial Park facility, to be used for intensive study of laser components. The fourth project is dedicated to the development of a master oscillator-power amplifier (MOPA) chain, in which a diode-pumped laser serves as an oscillator, while the amplifier is solar pumped[5].

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