

Abstract Submitted
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Electric discharge oxygen-iodine laser: three decades from the idea to the laser development. ANDREY IONIN, Lebedev Physics Institute — The overview of experimental research aimed at the research and development of an electric discharge oxygen-iodine laser (DOIL) since the first negative attempt of launching a DOIL in the 1970's is presented. The problem is tightly connected with the development of singlet delta oxygen (SDO) electric generator, which could substitute in future for SDO chemical one used for a high-power COIL resulting in the development of a high-power DOIL. The main experimental and theoretical efforts focused onto studying and understanding of physical processes, which could help in or prevent from achieving and exceeding the threshold SDO yield at partial oxygen pressure adequate for modern oxygen-iodine laser technology, are discussed. Quite recently obtained results on gain and output characteristics of DOIL, and some projects aimed at the development of high-power DOIL are discussed.

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