THIN, FLAT MICROPLASMA LAMP FOR ULTRAVIOLET TREATMENT

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Photodynamic therapy (PDT) for the treatment of dermato-oncologic conditions is an area of great interest to the scientific and medical community. Also, low dose exposure of UV light to the infected area has shown remission in several skin diseases without little side effects.[1] To deal with these medical conditions, low-cost and hand-held incoherent lamps can be a promising candidate because of their convenient accessibility to the affected tissue.

In this work, we have pursued the development of microcavity plasma lamps targeting low-cost and portable photodynamic therapy tools. Microcavity plasma lamps have been fabricated on glass substrates by simple microfabrication techniques. These lamps are lightweight (several ounces) and they allow convenient exposure to tissue. Several gas mixtures which emit in the UV-A region have been tested, the detailed performance of these devices will be presented.

1. P. Babilas, M. Landthaler, and R-M Szeimies, "Photo-dynamic therapy in dermatology," Eur. J. Dermatol. 16 (4), 2006, 340.

* Work supported by the Air Force Office of Scientific Research.