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Generation conditions of CW Diode Laser Sustained Plasma KOJI NISHIMOTO, MAKOTO MATSUI, TAKAHIRO ONO, Shizuoka University — Laser sustained plasma was generated using 1 kW class continuous wave diode laser. The laser beam was focused on the seed plasma generated by arc discharge in 1 MPa xenon lamp. The diode laser has advantages of high energy conversion efficiency of 80 %, ease of maintenance, compact size and availability of conventional quartz based optics. Therefore, it has a prospect of further development compared with conventional CO2 laser. In this study, variation of the plasma shape caused by laser power is observed and also temperature distribution in the direction of plasma radius is measured by optical emission spectroscopy.

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