We produced a VHF H2 plasma (frequency, 60 MHz) by a narrow-gap discharge and examined the plasma parameters as a function of pressure and power, where two parallel plate electrodes (400 300 mm²) were used. The plasma density reached a peak at a certain pressure, and when the power was increased, the peak pressure at which the density reached this peak shifted to higher pressures. Measured sheath potentials were lower than the theoretical values while the electron temperature was relatively high. An estimation of plasma uniformity was attempted by measuring the ion saturation current distribution, and the uniformity of about 4% was achieved.

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