

Abstract Submitted  
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**Plasma parameter measurements of Ar+H<sub>2</sub>+C<sub>7</sub>H<sub>8</sub> plasmas in H-assisted plasma CVD reactor** TAKUYA NOMURA, TATSUYA URAKAWA, YUKI KORENAGA, DAISUKE YAMASHITA, HIDEFUMI MATSUZAKI, KAZUNORI KOGA, MASAHARU SHIRATANI, YUICHI SETSUHARA, MAKOTO SEKINE, MASARU HORI — In recent years, hard carbon films attract much attention due to their superior film properties [1]. Deposition profile of the films on trench substrates is one of the concerns to realize coatings on such substrates. We have succeeded in controlling deposition profile of Cu on trench substrates, and have realized anisotropic deposition profiles using a H-assisted plasma CVD method [2-4]. This method provided independent control of dissociation of deposition material and generation of H atoms [2-4]. We are applying the method to control deposition profile of plasma CVD carbon films. In this presentation, we report H $\alpha$  emission intensity and electron density in the CVD plasmas to identify conditions of a high H flux on film surfaces, because H atoms modify deposition profile.

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