

CONTROLLING ION ENERGY WITHIN A PLASMA CHAMBER

ABSTRACT

Systems and methods controlling ion energy within a plasma chamber are described. One of the systems includes an upper electrode coupled to a sinusoidal RF generator for receiving a sinusoidal signal and a nonsinusoidal RF generator for generating a nonsinusoidal signal. The system further includes a power amplifier coupled to the nonsinusoidal RF generator. The power amplifier is used for amplifying the nonsinusoidal signal to generate an amplified signal. The system includes a filter coupled to the power amplifier. The filter is used for filtering the amplified signal using a filtering signal to generate a filtered signal. The system includes a chuck coupled to the filter. The chuck faces at least a portion of the upper electrode and includes a lower electrode. The lower electrode is used for receiving the filtered signal to facilitate achieving ion energy at the chuck to be between a lower threshold and an upper threshold.

Fig. 1A