



US 20240213005A1

(19) **United States**(12) **Patent Application Publication****Funk et al.**(10) **Pub. No.: US 2024/0213005 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **SYSTEM AND METHOD FOR PLASMA PROCESSING**(71) Applicant: **Tokyo Electron Limited**, Tokyo (JP)(72) Inventors: **Merritt Funk**, Austin, TX (US);
Barton Lane, Austin, TX (US); **Yohei Yamazawa**, Tokyo (JP)(21) Appl. No.: **18/146,253**(22) Filed: **Dec. 23, 2022****Publication Classification**(51) **Int. Cl.**
H01J 37/32 (2006.01)
H01P 7/06 (2006.01)(52) **U.S. Cl.**CPC **H01J 37/3299** (2013.01); **H01J 37/32091**
(2013.01); **H01J 37/3211** (2013.01); **H01J**
37/32165 (2013.01); **H01P 7/06** (2013.01);
H01J 37/32743 (2013.01); **H01J 2237/24564**
(2013.01); **H01J 2237/24585** (2013.01); **H01J**
2237/334 (2013.01)

(57)

ABSTRACT

An apparatus for plasma processing includes an RF power source and a set of resonating structures coupled to the RF power source. The resonating structures include a first region and a second region adjacent to the second region. The first region includes a first antenna and a first coupling circuit, the first coupling circuit being outside a coupling of the RF power source to the first region, where the first coupling circuit is configured to adjust a power distribution of the first region. The second region includes a second antenna.

