PROCESS CHAMBER FOR DIELECTRIC GAPFILL

ABSTRACT OF THE DISCLOSURE

A system to form a dielectric layer on a substrate from a plasma of dielectric precursors is described. The system may include a deposition chamber, a substrate stage in the deposition chamber to hold the substrate, and a remote plasma generating system coupled to the deposition chamber, where the plasma generating system is used to generate a dielectric precursor having one or more reactive radicals. The system may also include a precursor distribution system that includes at least one top inlet and a plurality of side inlets. The top inlet may be positioned above the substrate stage and the side inlets may be radially distributed around the substrate stage. The reactive radical precursor may be supplied to the deposition chamber through the top inlet. An in-situ plasma generating system may also be included to generate the plasma in the deposition chamber from the dielectric precursors supplied to the deposition chamber.