PLASMA-ENHANCED ATOMIC LAYER DEPOSITION APPARATUS AND METHOD THEREOF

ABSTRACT

Embodiments of the present disclosure provide a plasma-enhanced atomic layer deposition apparatus and a method thereof. The apparatus includes a precursor supply device communicating with gas inlet structures of two process chambers and configured to selectively provide a precursor or a purge gas to at least one of the two process chambers, a reaction gas supply device communicating with the gas inlet structures of the two process chambers and configured to selectively provide a reaction gas to at least one of the two process chambers, a radio frequency device connected to the two process chambers and configured to selectively output radio frequency power to at least one of the two process chambers, and a pressure adjustment device communicating with exhaust openings of the two process chambers and configured to independently control chamber pressures of the two process chambers. With the plasma-enhanced atomic layer deposition apparatus and the method thereof of embodiments of the present disclosure, process adjustment manners are increased, and the precursor supply device does not need to be provided for each of the process chambers. Thus, the apparatus costs can be reduced.

FIG. 2