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(54) Title: PYROMETRY FOR SUBSTRATE PROCESSING

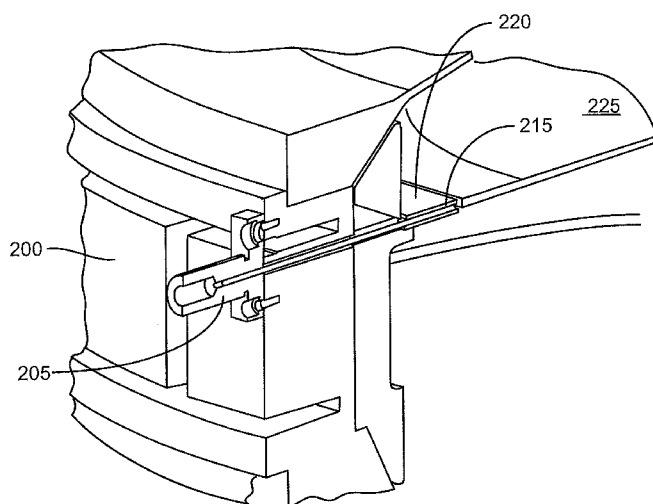


FIG. 2

(57) Abstract: A substrate processing system includes a processing chamber, a pedestal for supporting a substrate disposed within the processing chamber, and an optical pyrometry assembly coupled to the processing chamber to measure an emitted light originating substantially from a portion of the pedestal or substrate. The optical pyrometry assembly further includes a light receiver, and an optical detector. The optical pyrometry assembly receives a portion of the emitted light, and a temperature of the substrate is determined from an intensity of the portion of the emitted light near at least one wavelength. A method of measuring a temperature of a substrate during processing, includes disposing a light pipe near a portion of the pedestal supporting the substrate or pedestal, shielding the end of the light pipe from stray light so that the end of the light pipe receives light from the portion of the pedestal or substrate, purging the end of the light pipe with a gas to reduce contamination of the end of the light pipe, detecting a portion of the light emitted from the pedestal and received by the light pipe, and determining a temperature of the substrate from the intensity of the portion of the emitted light from the pedestal or the substrate near at least one wavelength.



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