

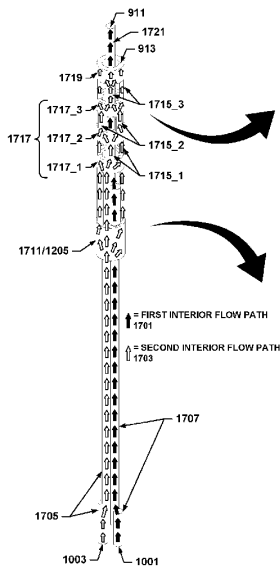
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- (71) Applicant: LAM RESEARCH CORPORATION
[US/US]; 4650 Cushing Pkwy., Fremont, California 94538 (US).
- (72) Inventors: LEE, James Forest; 4650 Cushing Pkwy., Fremont, California 94538 (US). BOATRIGHT, Daniel; 4650 Cushing Pkwy., Fremont, California 94538 (US).
- (74) Agent: MARTINEZ-LEMKE, Sheila et al.; WEAVER AUSTIN VILLENEUVE & SAMPSON LLP, P.O. Box 70250, Oakland, California 94612-0250 (US).
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(54) Title: COAXIAL, MULTI-FEED GAS DELIVERY STEM



(57) Abstract: An apparatus for semiconductor processing including a stem body and interior flow paths. The stem body has proximal and distal end portions. The proximal end portion includes inlets, each of which is distinct and configured to receive a corresponding gas(es). The distal end portion is opposite the proximal end portion along an axis of the stem body and configured to interface with a gas distributor. The distal end portion includes outlets, at least one of which is distinct. The interior flow paths include first and second interior flow paths. Each of the interior flow paths extends between a corresponding inlet among the inlets and at least one corresponding outlet among the outlets such that the interior flow paths are distinct. At least one of the interior flow paths includes a structure(s) configured to induce turbulent flow along the axis in response to a flow of the corresponding gas(es) therealong.