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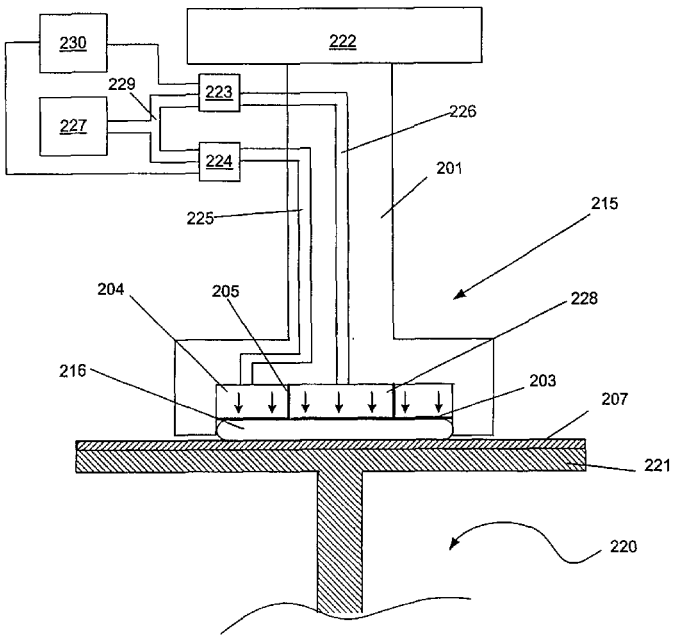
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(54) Title: ORBITAL POLISHING APPARATUS



(57) Abstract: The present invention is an apparatus and method for planarizing a front surface of a wafer. The present invention may include a rigid platen (221), for supporting a polishing pad (207), connected to a supporting base that has means, or is connected to means, for orbiting the platen. A carrier (215), preferably a front-reference carrier with a plurality of individually controllable pressure areas (204, 228), may be used to hold and press the wafer against the polishing pad (207) while the supporting base orbits the rigid platen. The planarization process may be further optimized by orbiting the polishing pad in a radius smaller than 4 mm, orbiting the polishing pad faster than 400 orbits per minute or both.

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