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(54) **Title:** SYSTEM AND METHOD FOR MULTI-BEAM ELECTRON MICROSCOPY USING A DETECTOR ARRAY

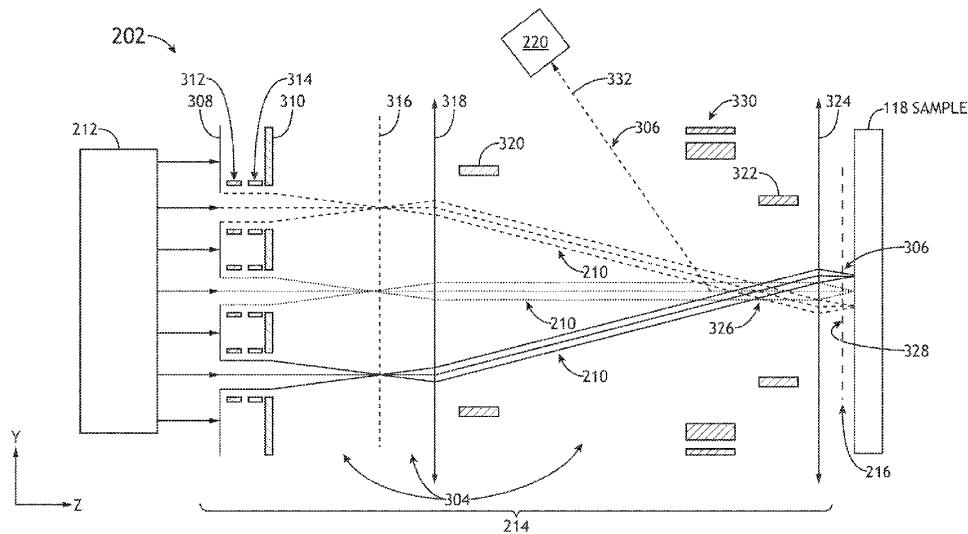


FIG. 3

(57) **Abstract:** A system and method of an electron multi-beam imaging system is disclosed. The system may include an imaging sub-system. The imaging sub-system may include one or more electron beam sources configured to generate a plurality of beamlets to simultaneously probe a plurality of measurement regions on a sample. The imaging sub-system may further include one or more electron optics configured to adjust the plurality of beamlets. The imaging sub-system may further include a detector array, where the detector array includes a plurality of detectors configured to detect electrons emanating from a measurement region of the sample. For the system and method, each detector may include a pass-through channel configured for receiving a beamlet of the plurality of beamlets.

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