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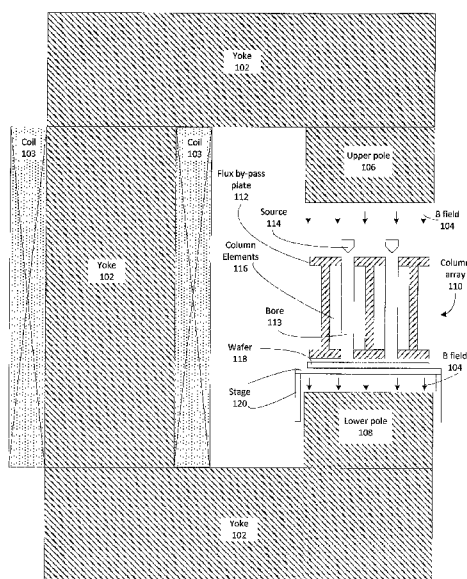


FIG. 1

(57) Abstract: One embodiment disclosed relates an apparatus which includes an electromagnet arranged to provide a large-scale magnetic field in a region. The apparatus further includes an array of multiple electron beam columns formed in the region using an array of bores through magnetic material. Another embodiment relates to a method of generating an array of electron beams. A large-scale magnetic field is generated in a region using at least two magnetic poles. The array of electron beams is generated using an array of columns formed using bores through a magnetic material positioned in the region. Other embodiments, aspects and features are also disclosed.