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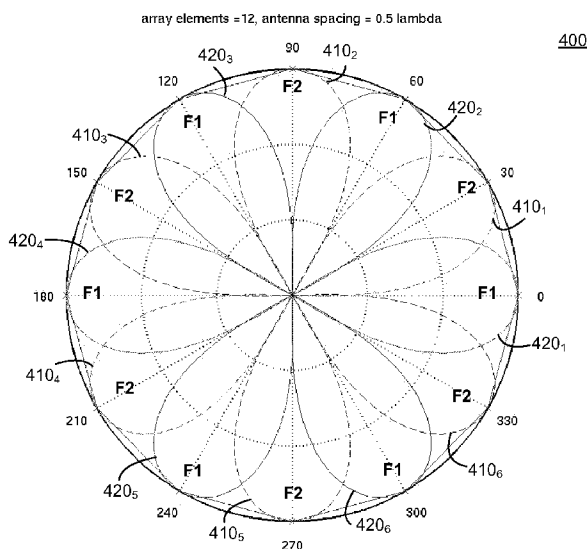
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- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: ORTHOGONAL RESOURCE REUSE WITH SDMA BEAMS



(57) Abstract: A wireless communication system can implement beamforming across multiple omni-directional antennas to create beams at different spatial directions. The communication system can arrange the beams in sets, with each set arranged to provide substantially complete coverage over a predetermined coverage area. The communication system can arrange the multiple SDMA beam sets to support substantially complementary coverage areas, such that a main beam from a first set provides coverage to a weak coverage area of the second beam set. The wireless communication system assigns or otherwise allocates substantially orthogonal resources to each of the beam sets. The wireless communication system allocates resources to a communication link using a combination of beam sets and substantially orthogonal resources in order to provide improved coverage without a corresponding increase in interference.

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