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(54) Title: **TECHNIQUES FOR NON-ZERO-POWER BEAMS IN WIRELESS SYSTEMS**

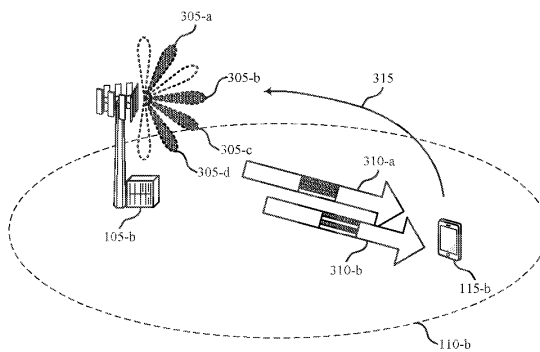


FIG. 3

(57) Abstract: Some wireless communication networks may im-
prove communication reliability and/or throughput using multi-
ple-input, multiple-output (MIMO) schemes. MIMO operation
may in turn be supported by the use of channel state informa-
tion reference signals (CSI-RS), which may allow communicat-
ing devices to estimate and leverage multipath channel condi-
tions. However, the signaling used to support such communi-
cations may consume significant resources. In accordance with
the described techniques, a user equipment (UE) may identify
non-zero-power beams based on received CSI-RS. The non-ze-
ro-power beams may contribute to the final precoding vector.
Rather than transmitting beam coefficients relating to zero-pow-
er beams, the UE may instead indicate a presence of these ze-
ro-power beams to the base station (e.g., by indicating a number
of non-zero-power beams). Such techniques may reduce over-
head of the communications or otherwise benefit the system.

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