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Lin et al.

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- (54) **CLOSED LOOP FEEDBACK IN MIMO SYSTEMS** 2002/0150109 A1* 10/2002 Agee 370/400
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- (21) Appl. No.: **10/939,130**
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(51) **Int. Cl.**
H04B 7/02 (2006.01)

(52) **U.S. Cl.** **375/267**

(58) **Field of Classification Search** 375/267,
375/347, 349, 358, 354, 357, 369, 372, 373,
375/374, 215, 294, 327, 376; 700/53; 455/101,
455/132-141, 69, 265, 180.3, 266; 370/328,
370/395.62, 507, 503; 702/89; 713/375,
713/400; 342/103

See application file for complete search history.

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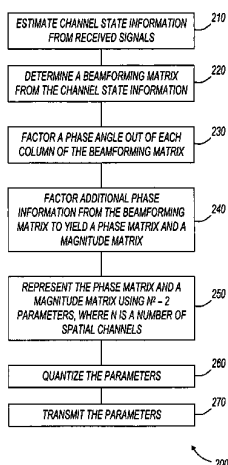
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(57) **ABSTRACT**

Feedback bandwidth may be reduced in a closed loop MIMO system by factoring non essential information out of a beam-forming matrix.

16 Claims, 6 Drawing Sheets



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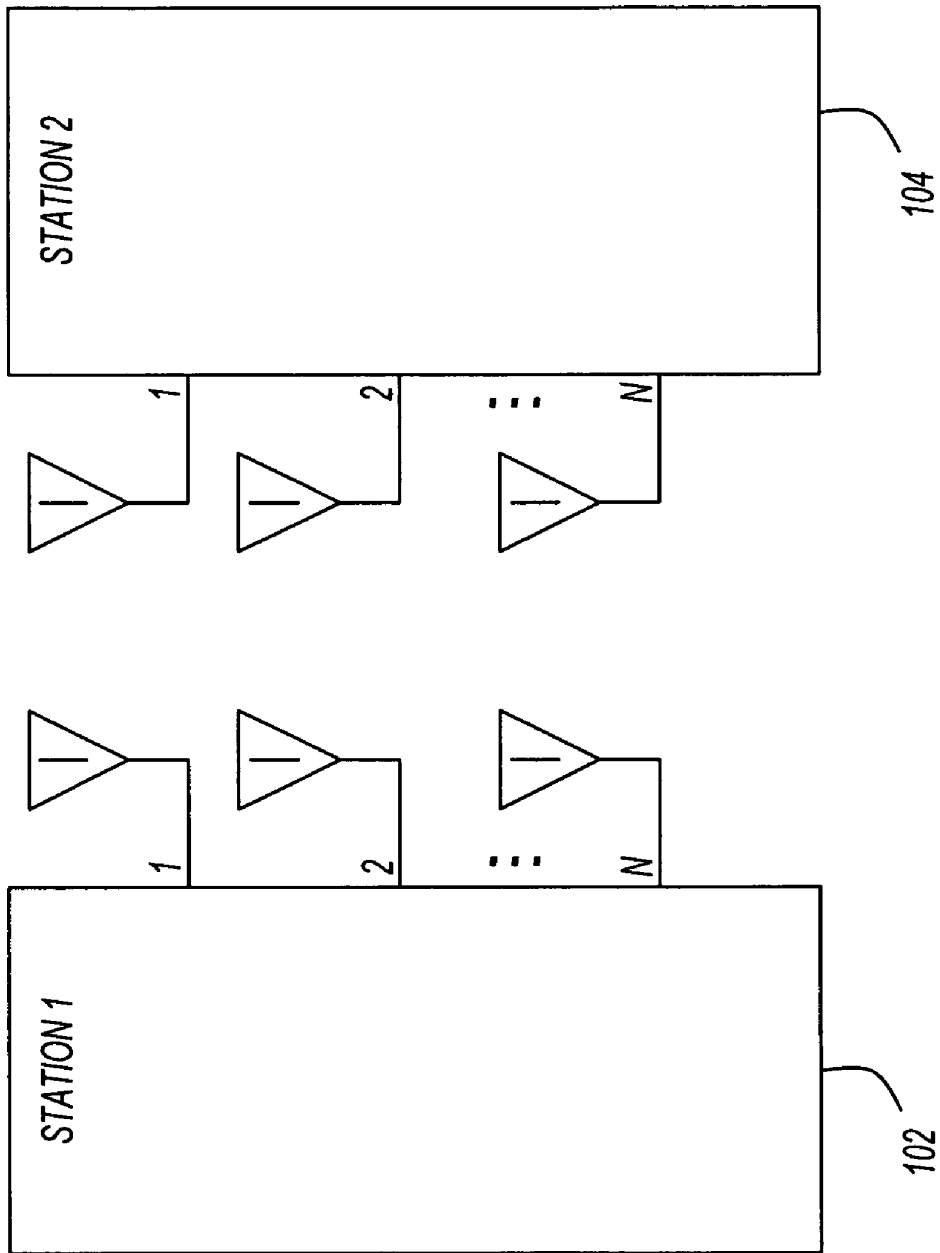


FIG. 1

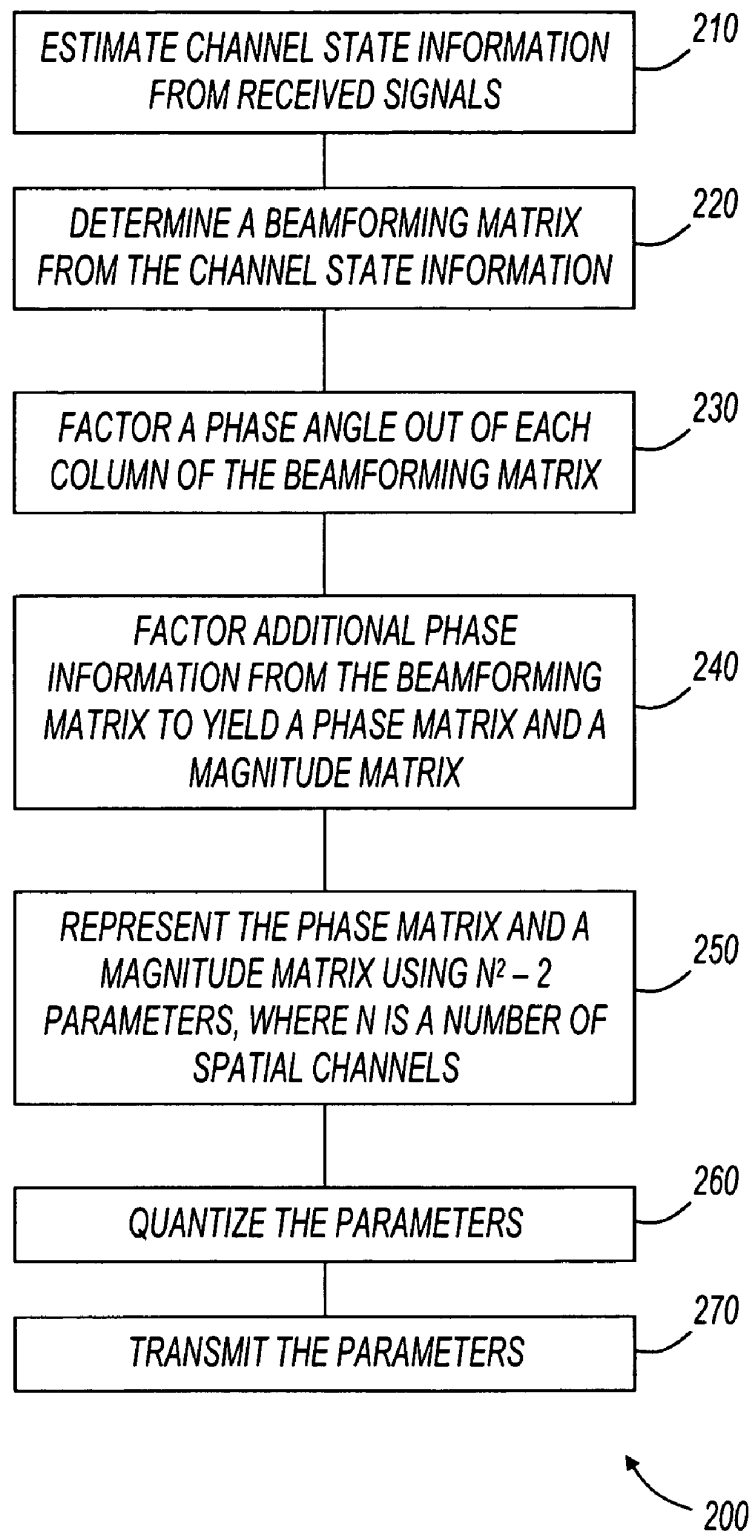


FIG. 2

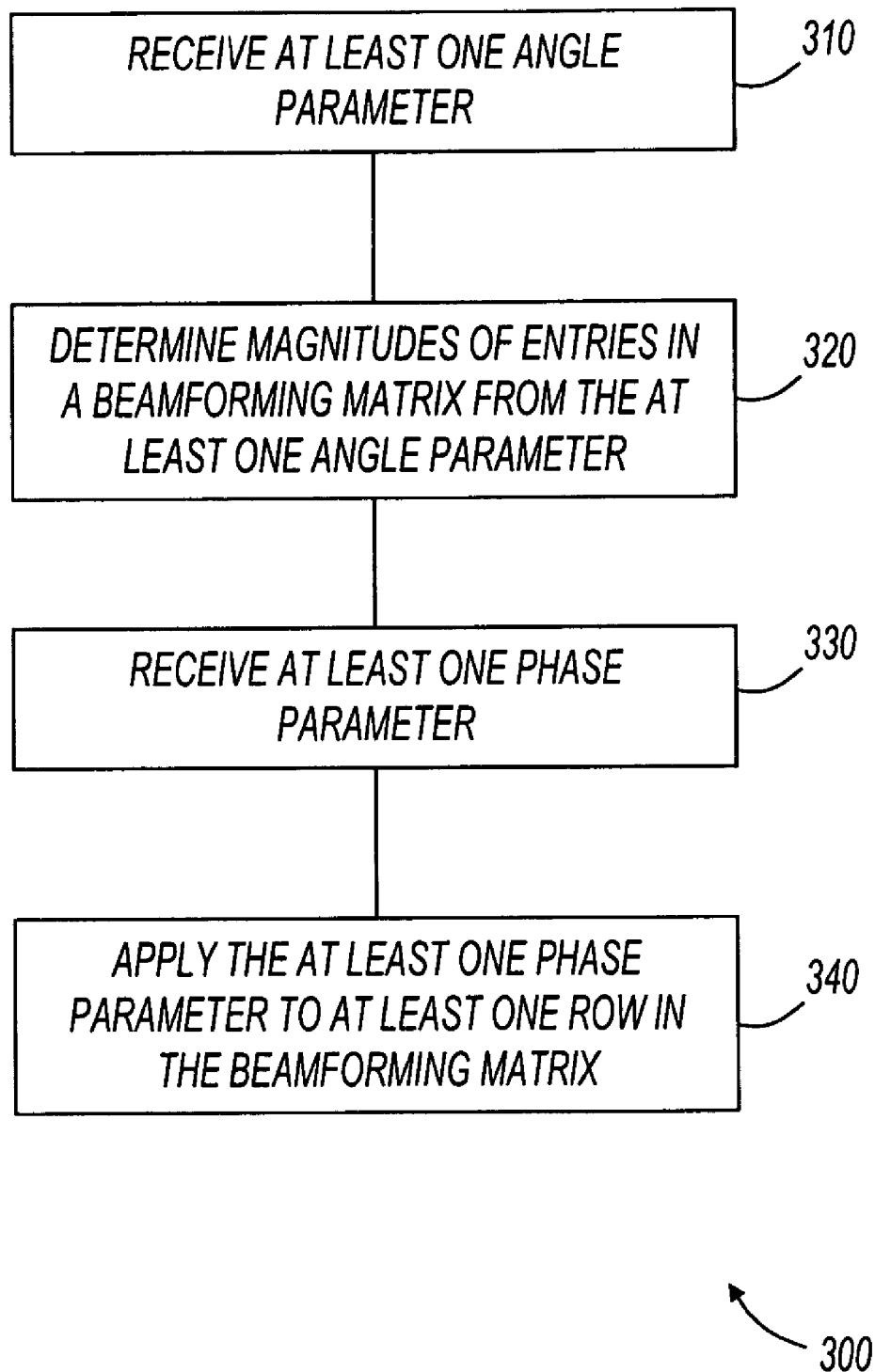


FIG. 3

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