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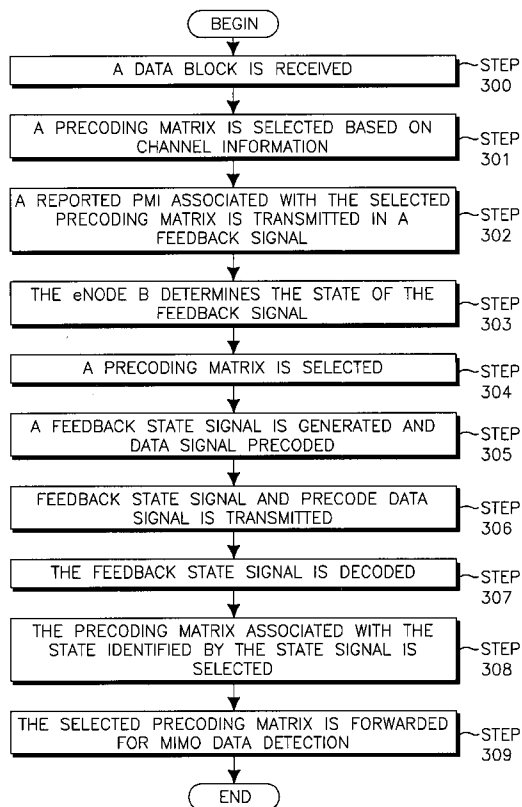
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[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR COMMUNICATING PRECODING OR BEAMFORMING INFORMATION TO USERS IN MIMO WIRELESS COMMUNICATION SYSTEMS



(57) Abstract: Methods and apparatus for communicating precoding or beamforming information to users are disclosed. A feedback signal including a reported precoding matrix index (PMI) is received and a determination made as to the state of the feedback. Precoding rules associated with the determined state are then used to select a precoding matrix. The state information is transmitted to a wireless transmit receive unit (WTRU), which uses the state information and the precoding rules associated therewith to select the precoding matrix used to decode a received precoded data signal.

FIG.3

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NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG,
CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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claims and to be republished in the event of receipt of
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INTERNATIONAL SEARCH REPORT

International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	EP 1 628 415 A (CIT ALCATEL [FR]) 22 February 2006 (2006-02-22) paragraph [0010] - paragraph [0011] paragraph [0018] paragraph [0030] paragraph [0037] - paragraph [0038]; figure 1 paragraph [0042]; figure 3	1-8,12, 13, 35-42, 46-48 9-11, 14-34, 43-45
X A	US 2003/148738 A1 (DAS ARNAB [US] ET AL) 7 August 2003 (2003-08-07) paragraph [0005] paragraph [0033]; figure 1 paragraph [0060] - paragraph [0063]; figures 7,8 paragraph [0068] - paragraph [0072]; figures 9,10	25,26 27-34
X A	US 2004/076224 A1 (ONGGOSANUSI EKO N [US] ET AL) 22 April 2004 (2004-04-22) paragraph [0028]; figure 1 paragraph [0031]; figure 2b paragraph [0051] - paragraph [0053]; figure 4	25,26 27-34
X A	SEEGER A ET AL: "Antenna weight verification for closed loop transmit diversity" GLOBECOM'03. 2003 - IEEE GLOBAL TELECOMMUNICATIONS CONFERENCE. CONFERENCE PROCEEDINGS. SAN FRANCISCO, CA, DEC. 1 - 5, 2003; [IEEE GLOBAL TELECOMMUNICATIONS CONFERENCE], NEW YORK, NY : IEEE, US, vol. 2, 1 December 2003 (2003-12-01), pages 1124-1129, XP010678496 ISBN: 978-0-7803-7974-9 abstract page 1124, left-hand column, last paragraph - right-hand column, paragraph 2 chapter II B. chapter III	25,26 27-34

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2008/003771

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-24,35-48

Selection of precoding matrix based on the state of a feedback signal

2. claims: 25-34

Blind detection of precoding matrix

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2008/003771
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Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
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