(US)

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- (52) U.S. Cl. ..... 370/334; 375/267; 455/562.1

See application file for complete search history.

#### (56) **References Cited**

DOCKE

RM

### **U.S. PATENT DOCUMENTS**

6,134,231	Α	10/2000	Wright
6,774,864	B2	8/2004	Evans et al.
6,801,775	B1 *	10/2004	Gibbons et al 455/450
6,917,820	B2 *	7/2005	Gore et al 455/562.1
2002/0003842	Al*	1/2002	Suzuki et al 375/259
2002/0102950	Al	8/2002	Gore et al.
2003/0083016	A1	5/2003	Evans et al.
2003/0185309	Al	10/2003	Pautler et al.
2003/0186698	A1*	10/2003	Holma et al 455/436

10 110 2000001150 111 1/2000

### OTHER PUBLICATIONS

International Search Report and Written Opinion 2005; PCT/US2005/017653; 17 pages.

Gore, D. A., et al., "Selecting an Optimal Set of 7 for a Low Rank Matrix Channel", *Acoustics. S Processing, Ieee International Conference, v* 2000),2785-2788.

Sandhu, S., et al., "Near-Optimal Selection of Traj a MIMO Channel based on Shannon Capacity", *Sig Computers*, (Oct. 29, 2000),567-571. PCT/US2005/017653, "International Preliminary ability received for PCT Patent Application N 017653, mailed on Jan. 11, 2007", 2 pages.

### (Continued)

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### (57) **ABSTRACT**

Stations in an N×N multiple-input-multiplewireless network always puncture the weak nel. A receiving station determines channel s for N spatial channels and feeds back to station channel state information for only N nels. The channel state information may incluing matrix to cause the transmitting station spatial channels.

### 13 Claims, 6 Drawing Sheet



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*FIG. 2* 

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*FIG. 3* 

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