Title (en)

APPARATUS, AND ASSOCIATED METHOD, FOR FACILITATING ANTENNA WEIGHT SELECTION UTILIZING DETERMINISTIC PERTURBATION GRADIENT APPROXIMATION

Title (de)

VORRICHTUNG UND ZUGEORDNETES VERFAHREN ZUM ERMÖGLICHEN EINER ANTENNENGEWICHTSAUSWAHL UNTER VERWENDUNG EINER DETERMINISTISCHEN PERTURBATIONSGRADIENTENAPPROXIMATION

Title (fr)

APPAREIL ET PROCEDE ASSOCIE PERMETTANT DE FACILITER LA SELECTION DU POIDS D'UNE ANTENNE A L'AIDE D'UNE APPROXIMATION DE GRADIENT DE PERTURBATION DETERMINISTE

Abstract (en)

[origin: WO03098823A1] Apparatus, and an associated method, for facilitating selection of optimal antenna weightings by which to weight signals sent in a communication system that utilizes closed-loop transmit diversity. A deterministic perturbation gradient approximation technique is utilized in which perturbation vectors are selected (136) by a selector and applied, by an applicator, to antenna weighting elements. A selected set of perturbation vectors are applied to the antenna weighting elements in both a positive direction and a negative direction (138). A detector at a receiving station measures in disassociated with the signals communicated thereto, once weighted with the perturbation vectors. A single-bit feedback value is returned to the sending station, and the antenna weightings are appropriately adjusted (142). The technique is utilized during both non-handoff conditions and during handoff conditions.

IPC 1-7

H04B 1/38; H04B 17/00; H04B 1/06; H04B 7/00; H04M 1/00; H04Q 7/20; H01Q 3/22; H01Q 3/24; H01Q 3/26

IPC 8 full level

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CPC (source: EP KR)

H01Q 3/26 (2013.01 - KR); H04B 7/022 (2013.01 - EP); H04B 7/06 (2013.01 - KR); H04B 7/0634 (2013.01 - EP); H04B 7/0641 (2013.01 - EP)

Citation (search report)

- [E] US 6952455 B1 20051004 - BANISTER BRIAN [US]
- [X] 3GPP2-DRAFTS, 2500 WILSON BOULEVARD, SUITE 300, ARLINGTON, VIRGINIA 22201 USA, 20 August 2001 (2001-08-20), XP040263545
- [X] 3GPP2-DRAFTS, 2500 WILSON BOULEVARD, SUITE 300, ARLINGTON, VIRGINIA 22201 USA, 12 February 2001 (2001-02-12), XP040351356
- [X] BANISTER B C ET AL: "Implementation of transmit antenna weight adaptation through stochastic gradient feedback", CONFERENCE RECORD OF THE 35TH. ASILOMAR CONFERENCE ON SIGNALS, SYSTEMS, & COMPUTERS. PACIFIC GROOVE, CA, NOV. 4 - 7, 2001; [ASILOMAR CONFERENCE ON SIGNALS, SYSTEMS AND COMPUTERS], NEW YORK, NY : IEEE, US, vol. 2, 4 November 2001 (2001-11-04), pages 1517 - 1524, XP010582290, ISBN: 978-0-7803-7147-7
- [XP] RAGHOTHAMAN B ED - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS: "Deterministic perturbation gradient approximation for transmission subspace tracking in FDD-CDMA", ICC 2003. 2003 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS. ANCHORAGE, AK, MAY 11 - 15, 2003; [IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS], NEW YORK, NY : IEEE, US, vol. 4, 11 May 2003 (2003-05-11), pages 2450 - 2454, XP010642887, ISBN: 978-0-7803-7802-5
- See references of WO 03098823A1

Cited by

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DOCDB simple family (application)

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