Title: ADAPTIVE SECTORIZATION IN CELLULAR SYSTEMS

Abstract: Apparatuses and methodologies are described that enhance performance in a wireless communication system using beamforming transmissions. According to one aspect, a set of transmit beams are defined that simultaneously provides for space division multiplexing, multiple-input multiple output (MIMO transmission and opportunistic beamforming. The addition of a wide beam guarantees a minimum acceptable performance for all user devices.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
H04Q 7/20 (2007.01)
USPC: 455/422.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H04Q 7/20 (2007.01)
USPC: 455/422.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
[PC(8): H04B 1/44; H04C 7/02]
SPC: 455/403, 455/478, 455/67.11, 455/67.14, 455/73, 455/284, 375/219, 455/101, 455/132, 455/272

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWest (USPB, USPT, USOC, EPAB, JPAB), DialogPro, GoogleScholar; wireless method wide narrow beam signal spatial division multiplexing MIMO overlap overlapping channel quality frequency pattern velocity Interference noise ratio cluster delay broadcast type data opportunistic network processor memory computer medium

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
</table>

Further documents are listed in the continuation of Box C.

Special categories of cited documents:
“X” = document defining the general state of the art which is not considered to be of particular relevance
“Y” = earlier application or patent but published on or after the international filing date
“Z” = document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
“P” = document referring to an oral disclosure, use, exhibition or other means
“O” = document published prior to the international filing date but later than the priority date claimed

Date of the actual completion of the international search
29 July 2007 (29.07.2007)

Date of mailing of the international search report
05 OCT 2007

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