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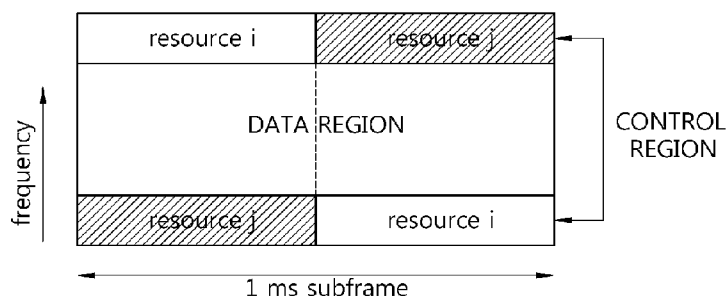
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(54) Title: APPARATUS AND METHOD FOR DATA TRANSMISSION IN SC-FDMA SYSTEM WITH MULTIPLE ANTENNAS

[Fig. 8]



(57) Abstract: According to an aspect of the present invention, an apparatus for data transmission is provided. The apparatus includes a data processing unit generating a data symbol by performing channel coding and constellation mapping on an information bit, a single carrier-frequency division multiple access (SC-FDMA) modulator generating an SC-FDMA symbol by performing discrete Fourier transform (DFT) on the data symbol, by mapping the DFT performed-data symbol to subcarriers, and by performing inverse fast Fourier transform (IFFT) on the subcarrier mapped-DFT performed-data symbol, and a plurality of transmit antennas transmitting the SC-FDMA symbol. A single carrier-frequency division multiple access (SC-FDMA) system can effectively use frequency switched transmit diversity (FSTD) to reduce a peak-to-average power ratio (PAPR) and to maintain a single-carrier property.



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Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords : MIMO, IFFT, DFT, SC-FDMA**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/0004465 A1 (ARIS PAPASAKELLARIOU et al.) 4 January 2007 see abstract, fig. 7 and paragraphs 50-54	1-6, 9-15
Y	US 2006/0067421 A1 (JAY RODNEY WALTON et al.) 30 March 2006 see abstract, figs. 2-3 and paragraph 35	1-6, 9-15
A	US 2008/0056117 A1 (TARIK MUHAREMOVIE et al.) 6 March 2008 see abstract, fig. 2	1-15

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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US 2007-004465 A1

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