



US 20230232411A1

(19) **United States**

(12) **Patent Application Publication**
ZHANG et al.

(10) **Pub. No.: US 2023/0232411 A1**

(43) **Pub. Date: Jul. 20, 2023**

(54) **FEEDBACK INFORMATION
TRANSMITTING METHOD AND
APPARATUS AND FEEDBACK
INFORMATION RECEIVING METHOD AND
APPARATUS**

Publication Classification

(51) **Int. Cl.**
H04W 72/23 (2006.01)
H04B 7/06 (2006.01)
H04L 5/00 (2006.01)
(52) **U.S. Cl.**
CPC *H04W 72/23* (2023.01); *H04B 7/0639*
(2013.01); *H04L 5/0053* (2013.01)

(71) Applicant: **FUJITSU LIMITED**, Kawasaki-shi
(JP)

(72) Inventors: **Jian ZHANG**, Beijing (CN); **Qinyan
JIANG**, Beijing (CN); **Zhe CHEN**,
Beijing (CN); **Lei ZHANG**, Beijing
(CN)

(73) Assignee: **FUJITSU LIMITED**, Kawasaki-shi
(JP)

(21) Appl. No.: **18/125,235**

(22) Filed: **Mar. 23, 2023**

Related U.S. Application Data

(63) Continuation of application No. PCT/CN2020/
121236, filed on Oct. 15, 2020.

(57) **ABSTRACT**

An apparatus for transmitting feedback information, includes a receiver configured to receive downlink control information transmitted by a network device, and receive one or more physical downlink shared channels (PDSCHs) transmitted by the network device according to the downlink control information, and a transmitter configured to feed back feedback information for the physical downlink shared channels to the network device, wherein feedback information for physical downlink shared channels on a multi-PDSCH cell is included in two sub-codebooks, and one of the sub-codebooks includes feedback information for a physical downlink shared channel that is scheduled on a multi-PDSCH cell based on single-PDSCH and transport block.

401

**a terminal equipment receives downlink control information
transmitted by a network device**

402

**the terminal equipment receives one or more physical downlink
shared channels transmitted by the network device according to
the downlink control information**

403

**the terminal equipment feeds back feedback information for the
physical downlink shared channels to the network device**