

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局

(43) 国际公布日
2024 年 4 月 4 日 (04.04.2024)



(10) 国际公布号
WO 2024/065803 A1

(51) 国际专利分类号:
H04L 27/00 (2006.01) H04N 19/10 (2014.01)
G06T 9/00 (2006.01)

Guangdong 518129 (CN)。杜颖钢(DU, Yinggang);
中国广东省深圳市龙岗区坂田华为总部
办公楼, Guangdong 518129 (CN)。

(21) 国际申请号: PCT/CN2022/123574

(74) 代理人: 北京同立钧成知识产权代理有
限公司(LEADER PATENT & TRADEMARK FIRM);
中国北京市海淀区西直门北大街32号枫蓝
国际A座8F-6, Beijing 100082 (CN)。

(22) 国际申请日: 2022 年 9 月 30 日 (30.09.2022)

(25) 申请语言: 中文

(26) 公布语言: 中文

(71) 申请人: 华为技术有限公司 (HUAWEI
TECHNOLOGIES CO., LTD.) [CN/CN]; 中国广东
省深圳市龙岗区坂田华为总部办公楼,
Guangdong 518129 (CN)。

(72) 发明人: 杜雨晴(DU, Yuqing); 中国广东省深圳市
龙岗区坂田华为总部办公楼, Guangdong 518129
(CN)。马梦瑶(MA, Mengyao); 中国广东省深
圳市龙岗区坂田华为总部办公楼, Guangdong
518129 (CN)。谢俊文(XIE, Junwen); 中国广东
省深圳市龙岗区坂田华为总部办公楼,

(81) 指定国(除另有指明, 要求每一种可提供的国家
保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG,
BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU,
CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ,
IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ,
LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK,
MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA,
PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD,
SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW。

(54) Title: DATA COMPRESSION TRANSMISSION METHOD, APPARATUS, DEVICE, AND STORAGE MEDIUM

(54) 发明名称: 数据压缩传输方法、装置、设备以及存储介质

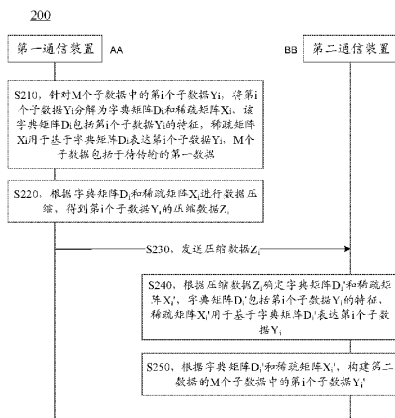


图 3

(57) Abstract: The present application provides a data compression transmission method, an apparatus, a device, and a storage medium. The method comprises: for i -th sub-data Y_i in M pieces of sub-data, a first communication apparatus decomposing the i -th sub-data Y_i into a dictionary matrix D_i and a sparse matrix X_i , wherein the sparse matrix X_i is used for expressing the i -th sub-data Y_i on the basis of the dictionary matrix D_i , the M pieces of sub-data are included in first data to be transmitted, M is an integer greater than or equal to 1, and i is an integer greater than or equal to 1 and less than or equal to M ; performing data compression according to the dictionary matrix D_i and the sparse matrix X_i to obtain compressed data Z_i of the i -th sub-data Y_i ; and then sending the compressed data Z_i to a second communication apparatus. Effective and reliable data compression transmission of first data with large data volume is achieved.

(57) 摘要: 本申请提供一种数据压缩传输方法、装置、设备以及存储介质。该方法包括: 第一通信装置针对 M 个子数据中的第 i 个子数据 Y_i , 将第 i 个子数据 Y_i 分解为字典矩阵 D_i 和稀疏矩阵 X_i , 稀疏矩阵 X_i 用于基于字典矩阵 D_i 表达第 i 个子数据 Y_i , M 个子数据包括于待传输的第一数据, M 为大于或等于 1 的整数, i 为大于或等于 1, 且小于或等于 M 的整数, 并根据字典矩阵 D_i 和稀疏矩阵 X_i 进行数据压缩, 得到第 i 个子数据 Y_i 的压缩数据 Z_i , 再向第二通信装置发送所述压缩数据 Z_i 。实现对数据量较大的第一数据进行有效且可靠的数据压缩传输。

S210 For i -th sub-data Y_i in M pieces of sub-data, decompose the i -th sub-data Y_i into a dictionary matrix D_i and a sparse matrix X_i , wherein the dictionary matrix D_i comprises a feature of the i -th sub-data Y_i , the sparse matrix X_i is used for expressing the i -th sub-data Y_i on the basis of the dictionary matrix D_i , and the M pieces of sub-data are included in first data to be transmitted
S220 Perform data compression according to the dictionary matrix D_i and the sparse matrix X_i to obtain compressed data Z_i of the i -th sub-data Y_i
S230 Send the compressed data Z_i
S240 Determine a dictionary matrix D' and a sparse matrix X' according to the compressed data Z_i , wherein the dictionary matrix D' comprises a feature of the i -th sub-data Y_i , and the sparse matrix X' is used for expressing the i -th sub-data Y_i on the basis of the dictionary matrix D'
S250 Construct the i -th sub-data Y_i' in M pieces of sub-data of second data according to the dictionary matrix D' and the sparse matrix X'
AA First communication apparatus
BB Second communication apparatus

[见续页]

(84) 指定国(除另有指明, 要求每一种可提供的地区
保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA,
RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚 (AM,
AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE, BG,
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO,
RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

本国际公布:

— 包括国际检索报告(条约第21条(3))。