



US 20240214104A1

(19) **United States**

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

(10) **Pub. No.: US 2024/0214104 A1**

(43) **Pub. Date: Jun. 27, 2024**

(54) **DATA TRANSMISSION METHOD AND APPARATUS, NETWORK DEVICE, SYSTEM, AND STORAGE MEDIUM**

**Publication Classification**

(51) **Int. Cl.**  
**H04J 14/02** (2006.01)  
**H04J 3/06** (2006.01)  
(52) **U.S. Cl.**  
**CPC** ..... **H04J 14/0245** (2013.01); **H04J 3/0623** (2013.01)

(71) Applicant: **ZTE CORPORATION**, Shenzhen, Guangdong (CN)

(72) Inventors: **Weiliang ZHANG**, Shenzhen, Guangdong (CN); **Xingang HUANG**, Shenzhen, Guangdong (CN); **Liquan YUAN**, Shenzhen, Guangdong (CN); **Zhuang MA**, Shenzhen, Guangdong (CN); **Haijun ZHANG**, Shenzhen, Guangdong (CN)

(57) **ABSTRACT**

The present disclosure provides a data transmission method and apparatus, a network device, a system, and a storage medium. The data transmission method includes: continuously sending downlink data frames of different rates at a first designated wavelength in a time-division multiplexing manner, with the downlink data frames carrying clock recovery information and time slot identification information of the downlink data frames of the different rates; and the clock recovery information is used for an optical network unit to perform clock recovery on the downlink data frames of the different rates, and the time slot identification information is configured to indicate time slot information of the downlink data frames of the different rates at the first designated wavelength.

(21) Appl. No.: **18/288,907**

(22) PCT Filed: **Apr. 18, 2022**

(86) PCT No.: **PCT/CN2022/087259**

§ 371 (c)(1),

(2) Date: **Oct. 30, 2023**

(30) **Foreign Application Priority Data**

Apr. 30, 2021 (CN) ..... 202110485033.X

downlink data frames of different rates are continuously sent at a first designated wavelength in a time-division multiplexing manner, with the downlink data frames carrying clock recovery information and time slot identification information of the downlink data frames of the different rates

S110