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(54) **BASE STATION, TERMINAL, RANDOM ACCESS PREAMBLE DETECTION METHOD AND RANDOM ACCESS CHANNEL CONFIGURATION METHOD**

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(57) **ABSTRACT**

The present disclosure relates to a communication method and system for converging a 5th-Generation (5G) communication system for supporting higher data rates beyond a 4th-Generation (4G) system with a technology for Internet of Things (IoT). The present disclosure may be applied to intelligent services based on the 5G communication technology and the IoT-related technology, such as smart home, smart building, smart city, smart car, connected car, health care, digital education, smart retail, security and safety services.

Disclosed are a base station and a random access preamble sequence detection method thereof, and a terminal and a random access channel configuration method thereof.