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(54) **METHOD FOR SIGNAL RELAYING IN THE
MIMO BASED RELAY COMMUNICATION
SYSTEM AND APPARATUS THEREOF**

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(57) **ABSTRACT**

An object of the present disclosure is to provide a method for high-speed signal relaying based on an MIMO based relay communication system and an apparatus thereof, which use a space time block code (STBC) based two-way relay technology in order to improve transmission rate reduction which occurs upon relaying a transmission signal by using a half duplex relay, and removes an inter relay interference which occurs between a plurality of relays used when using the two-way relay technology by using multiple input multiple output (MIMO) signal detection. In order to achieve the object, the method for high-speed signal relaying in the MIMO based relay communication system includes: receiving, by a plurality of relays, data signals transmitted from a sender by a reception unit during respective time slots; and removing, by a removal unit, an inter relay interference (IRI) component generated by using the plurality of relays.

