CLAIMS

1.- A method for controlling an operation of the communication network (10), the network including a source (S) connected by two relays (R1, R2) to a destination node (D), the operation being defined by a sending mode (ME1, ME2, ME3) and a receiving mode (MR1, MR2, MR3) for each relay (R1, R2), the method including:

- detection of the reception mode (MR1, MR2, MR3) of each relay (R1, R2) of the communication network (10), the receiving mode (MR1, MR2, MR3) of a relay (R1, R2) being:

  - a first receiving mode (MR1) in which said relay (R1, R2) is capable of receiving messages coming from the source without implementing an interference management technique, or
  - a second receiving mode (MR2) in which said relay (R1, R2) is capable of receiving the messages coming from the source after implementing an interference management technique, or
  - a third receiving mode (MR3) in which said relay (R1, R2) is not capable of receiving messages coming from the source even after implementing an interference management technique, and

- controlling the sending mode (ME1, ME2, ME2-bis, ME3) of the communication network (10) as a function of the receiving mode (MR1, MR2, MR3) detected for each of the two relays (R1, R2).

2.- The control method according to claim 1, wherein the detection of the receiving mode of each relay (MR1, MR2, MR3) is obtained using at least two signal-to-noise ratio measurements.

3.- The control method according to claim 2, wherein the signal-to-noise ratio measurements are the signal-to-noise ratio between a signal coming from the source (S) and the noise of a relay or the signal-to-noise ratio between a signal coming from a relay (R1, R2) and the noise of another relay (R1, R2).

4.- The control method according to any one of claims 1 to 3, wherein the method includes a step for the source (S) to learn the receiving modes (MR1, MR2, MR3) of the two relays (R1, R2).

5.- The control method according to any one of claims 1 to 4, wherein the interference management technique is a PLNC decoding.

6.- The control method according to claim 5, wherein the method includes the adaptation of the power of the source (S) when the receiving mode (MR1, MR2, MR3) is the second receiving mode (MR2).

7.- The control method according to any one of claims 1 to 6, wherein during the control step, the sending mode (ME1, ME2, ME2-bis, ME3) of the communication network (10) is a first mode (ME1), a second mode (ME2, ME2-bis) and a third mode (ME3), the communication network (10) having a throughput of 1 frame per slot when the communication network (10) is in the third sending mode (ME3) and the communication network (10) having a throughput of 2/3 of a frame per slot when the communication network (10) is in the second sending mode (ME2, ME2-bis).

8.- A communication network (10) including:

- a source (S),
- a destination node (D),
- two relays (R1, R2) connecting the source (S) to the destination node (D), and
- four controllers (18), each controller (18) respectively being associated with the source (S), the destination node (D) and the two relays (R1, R2), the four controllers (18) being suitable for:
    - controlling anoperation of the communication network (10), the operation being defined by a sending mode (ME1, ME2, ME3) for each node and a receiving mode (MR1, MR2, MR3) for each relay (R1, R2),
    - detecting the receiving mode (MR1, MR2, MR3) of each relay (R1, R2) of the communication network (10), the receiving mode (MR1, MR2, MR3) of a relay (R1, R2) being:
        - a first receiving mode (MR1) in which said relay (R1, R2) is capable of receiving messages coming from the source without implementing an interference management technique, or
        - a second receiving mode (MR2) in which said relay (R1, R2) is capable of receiving messages coming from the source after implementing an interference management technique, or

- a third receiving mode (MR3) in which said relay (R1, R2) is not capable of receiving messages coming from the source even after implementing an interference management technique, and

- controlling the sending mode (ME1, ME2, ME3) of the communication network (10) as a function of the receiving mode (MR1, MR2, MR3) detected for each of the two relays (R1, R2).

9.- A computer program product including a readable information medium, on which a computer program is stored comprising program instructions, the computer program being able to be loaded on a data processing unit and suitable for driving the implementation of at least one step of a method according to any one of claims 1 to 7 when the computer program is implemented on the data processing unit.

10.- A readable information medium comprising computer program instructions which, when executed by a data-processing unit, cause execution of steps of a method according to any one of the