CLAIMS

1. A wireless network discovery method performed by a Wireless Fidelity (WiFi) station, comprising:

~~before a station sends a first network probe request message to an access point,~~ detecting a current channel during a first period of time after receipt of a scan request, wherein a first probe request is designated to be sent when the first period of time expires; ~~and~~

~~when the station receives~~receiving, during the first period of time~~on the current channel~~, a second network probe request message sent by another station,

~~delaying~~not, ~~by the station,~~ sending the first network probe request message when the first period of time expires. when the station determines that the second network probe request message comprises network information requested by the station, and

waiting to receive a probe response message sent by a surrounding wireless network access point for a second period of time after receiving the second network probe request message.

~~2. The wireless network discovery method according to claim 1, wherein the delaying, by the station, sending the first network probe request message comprises:~~

~~when the station determines that the second network probe request message comprises a network information identifier requested by the station, suspending sending the first network probe request message for a preset period of time starting with a moment when the station receives the second network probe request message, and waiting to receive a second probe response message sent by a surrounding wireless network access point.~~

~~3~~2. The wireless network discovery method according to claim ~~2~~1, further comprising:

during the ~~preset~~ second period of time, if the station receives the ~~second~~ probe response message or another message used for wireless network discovery and determines that the ~~second~~ probe response message or the another message used for wireless network discovery comprises network information requested by the station,

after the ~~preset~~ second period of time is reached, not sending the first network probe request message, wherein the message used for wireless network discovery comprises a beacon message.

4~~3~~. The wireless network discovery method according to claim ~~2~~ 1 or ~~3~~2, further comprising:

during the ~~preset~~ second period of time, if the station receives the ~~second~~ probe response message and does not receive ~~the~~ another message used for wireless network discovery, and the station determines that the ~~second network~~ probe ~~request~~ response message does not comprise the network information ~~identifier~~ requested by the station,

after the ~~preset~~ second period of time is reached, sending the first network probe request

message.

~~5~~4. The wireless network discovery method according to any one of claims 1~~2~~ to 4~~3~~, further comprising:

during the ~~preset~~ second period of time, if the station does not receive the ~~second~~ probe response message and does not receive ~~the~~ another message used for wireless network discovery,

after the ~~preset~~ second period of time is reached, sending the first network probe request message.

~~6~~5. The wireless network discovery method according to any one of claims 1 to ~~5~~4, further comprising:

determining, by the station and according to indication information carried in a physical layer frame header of a message sent by another station, that the message sent by the another station is the second network probe request message, wherein the indication information is used for indicating that the current message is the second network probe request message.

~~7~~6. A station, comprising:

a detecting module, configured to: ~~before a first network probe request message is sent to an access point,~~ detect a current channel for a first period of time after receipt of a scan request, wherein a first probe request is designated to be sent after the first period of time expires, and when a second network probe request message sent by another station is received on the current channel, trigger a message delaying module; and

~~the message delaying module, configured to delay sending the first network probe request message~~

the message delaying module comprises: a first message determining sub-module, configured to determine whether the second network probe request message comprises network information requested by the station; and

a probe response message waiting sub-module, configured to: when the first message determining sub-module determines that the second network probe request message comprises network information requested by the station, not send the first network probe request message when the first period of time expires, and wait to receive a probe response message sent by a surrounding wireless network access point for a second period of time after receiving the second network probe request message.

~~8. The station according to claim 7, wherein the message delaying module comprises:~~

~~a first message determining sub-module, configured to determine whether the second network probe request message comprises a network information identifier requested by the station; and~~

~~a probe response message waiting sub-module, configured to: when the first message~~

~~determining sub-module determines that the second network probe request message comprises information requested by the station, suspend sending the first network probe request message for a preset period of time starting with a moment when the second network probe request message is received, and wait to receive a second probe response message sent by a surrounding wireless network access point.~~

~~9~~7. The station according to claim ~~8~~6, further comprising:

a second message determining sub-module, configured to: during the ~~preset~~ second period of time, if the ~~second~~ probe response message or another message used for wireless network discovery is received, determine whether the ~~second~~ probe response message or the another message used for wireless network discovery comprises network information requested by the station, wherein the message used for wireless network discovery comprises a beacon message; and

a message canceling sub-module, configured to: when the ~~second~~ probe response message or the another message used for wireless network discovery comprises the network information requested by the station, after the preset period of time is reached, not send the first network probe request message.

~~10~~8. The station according to claim ~~8~~6 or ~~9~~7, further comprising:

a message sending module, configured to: during the ~~preset~~ second period of time, if the ~~second~~ probe response message is received, ~~the~~ another message used for wireless network discovery is not received, and it is determined that the ~~second network~~ probe responserequest message does not comprise the network information identifier requested by the station, after the ~~preset~~ second period of time is reached, send the first network probe request message.

~~11~~9. The station according to claim ~~10~~8, wherein the message sending module is further configured to:

during the ~~preset~~ second period of time, if the ~~second~~ probe response message is not received, and the another message used for wireless network discovery is not received, after the ~~preset~~ second period of time is reached, send the first network probe request message.

~~12. A wireless network discovery method, comprising:~~

~~before a station sends a first network probe request message to an access point, detecting a current channel; and~~

~~when the station receives, on the current channel, a second network probe request message sent by another station, delaying, by the station, sending the first network probe request message, or canceling, by the station, sending the first network probe request message.~~

~~13. The wireless network discovery method according to claim 12, wherein the delaying, by the station, sending the first network probe request message comprises:~~

when the station determines that the second network probe request message comprises a network information identifier requested by the station, suspending sending the first network probe request message for a preset period of time starting with a moment when the station receives the second network probe request message, and waiting to receive a second probe response message sent by a surrounding wireless network access point.

14. The wireless network discovery method according to claim 12, wherein the canceling, by the station, sending the first network probe request message specifically comprises:

during a preset period of time, if the station receives a second probe response message or another message used for wireless network discovery and determines that the second probe response message or the another message used for wireless network discovery comprises network information requested by the station,

after the preset period of time is reached, not sending the first network probe request message, wherein the another message used for wireless network discovery comprises a beacon message.

15. The wireless network discovery method according to claim 13 or 14, further comprising:

during the preset period of time, if the station receives the second probe response message, and does not receive the another message used for wireless network discovery, and the station determines that the second network probe request message does not comprise the network information identifier requested by the station,

after the preset period of time is reached, sending the first network probe request message.

16. The wireless network discovery method according to any one of claims 13 to 15, further comprising:

during the preset period of time, if the station does not receive the second probe response message, and does not receive the another message used for wireless network discovery,

after the preset period of time is reached, sending the first network probe request message.

17. The wireless network discovery method according to any one of claims 14 to 16, wherein the preset period of time is a preset period of time starting with a moment when the station receives the second network probe request message, and the second probe response message is sent by a surrounding wireless network access point.

18. The wireless network discovery method according to any one of claims 12 to 17, further comprising:

determining, by the station and according to indication information carried in a physical layer frame header of a message sent by another station, that the message sent by the another station is the second network probe request message, wherein the indication information is used for indicating that the current message is the second network probe request message.

19. A station, comprising:

a detecting module, configured to: before a first network probe request message is sent to an access point, detect a current channel, and when a second network probe request message sent by another station is received on the current channel, trigger a message delaying module; and

the message delaying module, configured to delay sending the first network probe request message; and

a message canceling sub-module, configured to cancel sending the first network probe request message.

20. The station according to claim 19, wherein the message delaying module comprises:

a first message determining sub-module, configured to determine whether the second network probe request message comprises a network information identifier requested by the station; and

a probe response message waiting sub-module, configured to: when the first message determining sub-module determines that the second network probe request message comprises information requested by the station, suspend sending the first network probe request message for a preset period of time starting with a moment when the second network probe request message is received, and wait to receive a second probe response message sent by a surrounding wireless network access point.

21. The station according to claim 20, further comprising:

a second message determining sub-module, configured to: during the preset period of time, if the second probe response message or another message used for wireless network discovery is received, determine whether the second probe response message or the another message used for wireless network discovery comprises network information requested by the station, wherein the message used for wireless network discovery comprises a beacon message; and

the message canceling sub-module is specifically configured to: when the second probe response message or the another message used for wireless network discovery comprises the network information requested by the station, after the preset period of time is reached, not send the first network probe request message.

22. The station according to claim 20, further comprising:

a message sending module, configured to: during the preset period of time, if the second probe response message is received, the another message used for wireless network discovery is not received, and it is determined that the second network probe request message does not comprise the network information identifier requested by the station, after the preset period of time is reached, send the first network probe request message.

23. The station according to claim 22, wherein the message sending module is further

~~configured to:~~

~~during the preset period of time, if the second probe response message is not received, and the another message used for wireless network discovery is not received, after the preset period of time is reached, send the first network probe request message.~~