CLAIMS

1. A delay reporting method, wherein the method comprises:

reporting a target delay corresponding to data at a plurality of specific locations in a data flow, wherein the plurality of specific locations are separated by a fixed length, and a periodicity of the plurality of specific locations corresponds to a periodicity of inserting a padding sequence into the data flow.

2. The method according to claim 1, wherein the periodicity of the plurality of specific locations is an integer multiple of 8712 data blocks, the periodicity of the plurality of specific locations is an integer multiple of 8704 data blocks, the periodicity of the plurality of specific locations is an integer multiple of 64 data blocks, or the periodicity of the plurality of specific locations is an integer multiple of 65 data blocks.

3. The method according to claim 2, wherein the data block comprises 128 bits, 120 bits, or 4 bits.

4. The method according to claim 1, wherein the periodicity of the plurality of specific locations is an integer multiple of any one of the following values: 1115136 bits, 1114112 bits, 1044480 bits, or 1045440 bits.

5. The method according to any one of claims 1 to 4, wherein the specific location is a start location of an FEC codeword, and the start location is a 1st bit, a 1st symbol, or a 1st byte of the FEC codeword.

6. The method according to claim 4 or 5, wherein the FEC codeword comprises an inner FEC codeword.

7. The method according to any one of claims 1 to 6, wherein the data flow is a data flow obtained through inner FEC encoding, or the data flow is a data flow obtained through inner FEC decoding.

8. The method according to any one of claims 1 to 7, wherein the periodicity of inserting the padding sequence into the data flow is an integer multiple of a periodicity of inserting a parity sequence into the data flow.

9. The method according to any one of claims 1 to 8, wherein the target delay corresponds to a delay of the data passing through an optical module, or the target delay corresponds to a delay of the data passing through an inner FEC layer in the optical module.

10. The method according to any one of claims 1 to 9, wherein the method further comprises:

measuring a first delay corresponding to data at each of the plurality of specific locations to obtain a plurality of first delays, wherein

the target delay comprises a maximum value and/or a minimum value among the plurality of first delays.

11. The method according to claim 10, wherein reporting the target delay corresponding to the data at the plurality of specific locations in the data flow comprises:

reporting the maximum value via a maximum TX delay register of an inner FEC; and/or

reporting the minimum value via a minimum TX delay register of the inner FEC.

12. The method according to claim 10, wherein reporting the target delay corresponding to the data at the plurality of specific locations in the data flow comprises:

reporting the maximum value via a maximum TX delay register of a physical medium attachment, PMA/physical media dependent, PMD; and/or

reporting the minimum value via a minimum TX delay register of the PMA/PMD.

13. The method according to claim 10, wherein reporting the target delay corresponding to the data at the plurality of specific locations in the data flow comprises:

reporting the maximum value via a maximum RX delay register of an inner FEC; and/or

reporting the minimum value via a minimum RX delay register of the inner FEC.

14. The method according to claim 10, wherein reporting the target delay corresponding to the data at the plurality of specific locations in the data flow comprises:

reporting the maximum value via a maximum RX delay register of a PMA/PMD; and/or

reporting the minimum value via a minimum RX delay register of the PMA/PMD.

15. The method according to any one of claims 1 to 14, wherein reporting the target delay corresponding to the data at the plurality of specific locations in the data flow comprises:

reporting, to a media access control MAC layer, the target delay corresponding to the data at the plurality of specific locations in the data flow.

16. The method according to any one of claims 1 to 15, wherein the method is applied to an optical module or a physical PHY layer chip.

17. The method according to claim 16, wherein the optical module comprises an inner FEC module, and the inner FEC module comprises an inner FEC encoding module and/or an inner FEC decoding module.

18. The method according to any one of claims 1 to 17, wherein the specific location is a start location of a data block immediately after the padding sequence is inserted into the data flow, and the start location is a 1st bit, a 1st symbol, or a 1st byte of the data block.

19. A delay reporting apparatus, wherein the apparatus is configured to perform the method

according to any one of claims 1 to 18.

20. The apparatus according to claim 19, wherein the apparatus is:

an optical module or a chip.