CLAIMS

1. A method of wireless communications, comprising:

selecting, from a set of code types, a type of code to use as an inner code for a concatenated coding scheme for encoding information bits of a channel, wherein the selection is based on a false alarm detection objective for the channel;

generating a codeword by encoding the information bits using the type of code selected as the inner code and an outer code; and

transmitting the codeword.

2. The method of claim 1, wherein the outer code comprises a cyclic redundancy check (CRC), wherein a number of bits for the CRC is based on the false alarm detection objective for the channel.

3. The method of claim 1, wherein the false alarm detection objective depends on a type of the physical channel.

4. The method of claim 1, wherein the false alarm detection objective depends on a number of retransmissions of the channel.

5. The method of claim 1, wherein information regarding the false alarm detection objective is signaled via radio resource control (RRC) signaling.

6. The method of claim 1, wherein the set of code types comprises at least a Reed-Muller code type and a polar code type.

7. The method of claim 1, wherein selecting comprises selecting further based on at least one of a number of information bits of the channel to be encoded, or a list decoding size.

8. The method of claim 7, further comprising:

generating a metric as a function of the number of information bits, the false alarm detection objective, and the list decoding size; and

selecting the type of code based on the metric.

9. The method of claim 8, wherein the selecting comprises:

selecting a polar code type if the metric is equal to or exceeds a threshold value; or

selecting a Reed-Muller code type if the metric is below the threshold value.

10. The method of claim 1, further comprising determining a number of assistant parity bits to use for the inner code in the concatenated coding scheme based, at least in part, on a code parity bit length of the outer code.

11. An apparatus for wireless communications, comprising:

means for selecting, from a set of code types, a type of code to use as an inner code for a concatenated coding scheme for encoding information bits of a channel, wherein the selection is based on a false alarm detection objective for the channel;

means for generating a codeword by encoding the information bits using the type of code selected as the inner code and an outer code; and

means for transmitting the codeword.

12. The apparatus of claim 11, wherein the outer code comprises a cyclic redundancy check (CRC), wherein a number of bits for the CRC is based on the false alarm detection objective for the channel.

13. The apparatus of claim 11, wherein the false alarm detection objective depends on a type of the physical channel.

14. The apparatus of claim 11, wherein the false alarm detection objective depends on a number of retransmissions of the channel.

15. The apparatus of claim 11, wherein information regarding the false alarm detection objective is signaled via radio resource control (RRC) signaling.

16. The apparatus of claim 11, wherein the set of code types comprises at least a Reed-Muller code type and a polar code type.

17. The apparatus of claim 11, wherein the wherein the means for selecting selects further based on at least one of a number of information bits of the channel to be encoded, or a list decoding size.

18. The apparatus of claim 17, further comprising:

means for generating a metric as a function of the number of information bits, the false alarm detection objective, and the list decoding size; and

means for selecting the type of code based on the metric.

19. The apparatus of claim 18, wherein the means for selecting selects the type of code by:

selecting a polar code type if the metric is equal to or exceeds a threshold value; or

selecting a Reed-Muller code type if the metric is below the threshold value.

20. An apparatus of wireless communications, comprising:

at least one processor configured to:

select, from a set of code types, a type of code to use as an inner code for a concatenated coding scheme for encoding information bits of a channel, wherein the selection is based on a false alarm detection objective for the channel;

generate a codeword by encoding the information bits using the type of code selected as the inner code and an outer code; and

transmit the codeword; and

a memory coupled to the at least one processor.

21. The apparatus of claim 20, wherein the outer code comprises a cyclic redundancy check (CRC), wherein a number of bits for the CRC is based on the false alarm detection objective for the channel.

22. The apparatus of claim 20, wherein the false alarm detection objective depends on a type of the physical channel.

23. The apparatus of claim 20, wherein the false alarm detection objective depends on a number of retransmissions of the channel.

24. The apparatus of claim 20, wherein information regarding the false alarm detection objective is signaled via radio resource control (RRC) signaling.

25. The apparatus of claim 20, wherein the set of code types comprises at least a Reed-Muller code type and a polar code type.

26. The apparatus of claim 20, wherein the at least one processor is configured to select the type of code further based on at least one of a number of information bits of the channel to be encoded, or a list decoding size.

27. The apparatus of claim 26, wherein the at least one processor is further configured to:

generate a metric as a function of the number of information bits, the false alarm detection objective, and the list decoding size; and

select the type of code based on the metric.

28. The apparatus of claim 27, wherein the at least one processor is configured to select the type of code by:

selecting a polar code type if the metric is equal to or exceeds a threshold value; or

selecting a Reed-Muller code type if the metric is below the threshold value.

29. A non-transitory computer-readable medium for wireless communications, for storing instructions which when executed by at least one processor performs a method comprising:

selecting, from a set of code types, a type of code to use as an inner code for a concatenated coding scheme for encoding information bits of a channel, wherein the selection is based on a false alarm detection objective for the channel;

generating a codeword by encoding the information bits using the type of code selected as the inner code and an outer code; and

transmitting the codeword.

30. The non-transitory computer-readable medium of claim 29, wherein the outer code comprises a cyclic redundancy check (CRC), wherein a number of bits for the CRC is based on the false alarm detection objective for the channel.