CLAIMS

1. A video decoding method for decoding symbols of blocks having a hierarchical structure, the video decoding method comprising:

determining, by a decoder (230), a transform unit of a first level from a coding unit;

obtaining, by an extractor (220), from a bitstream, a transform unit split flag indicating whether to split a transform unit of a first level into transform units of a second level by dividing a height and a width of the transform unit of a first level by 2;

obtaining, by the extractor (220), from the bitstream, coded pattern information of a chroma component indicating whether there is a non-zero coefficient of the chroma component in the transform unit of a first level; and

in response to that the transform unit split flag indicates that the transform unit of a first level is not split into the transform units of a second level and a prediction mode of the coding unit is an intra prediction mode, obtaining, by the extractor (220), from the bitstream, coded pattern information of a luma component indicating whether there is a non-zero coefficient of the luma component in the transform unit of a first level and decoding, by the decoder (230), the transform unit of a first level based on the coded pattern information of a luma component and the coded pattern information of a chroma component,

wherein, the coded pattern information of a chroma component is obtained from the bitstream, regardless the transform unit split flag and the prediction mode of the coding unit, and

wherein, the coded pattern information of the luma component is not obtained from the bitstream in response to that the prediction mode of the coding unit is an intra prediction mode and the transform unit split flag indicates that the transform unit of a first level is split into the transform units of a second level.

2. The video decoding method of claim 1, further comprising:

in response to that the transform unit split flag indicates that the transform unit of a first level is split into the transform units of a second level, determining, by a decoder (230), the transform units of a second level by dividing a height and a width of the transform unit of a first level by 2;

obtaining, by the extractor (220), from the bitstream, a second transform unit split flag indicating whether to split a transform unit of the second level, among the transform units of a second level, into transform units of a third level by dividing a height and a width of the transform unit of the second level by 2;

obtaining, by the extractor (220), from the bitstream, second coded pattern information of a chroma component indicating whether there is a non-zero coefficient of the chroma component in the transform unit of the second level; and

in response to that the transform unit split flag indicates that the transform unit of the second level is not split into the transform units of a third level and the prediction mode of the coding unit is an intra prediction mode, obtaining, by the extractor (220), from the bitstream, second coded pattern information of a luma component indicating whether there is a non-zero coefficient of the luma component in the transform unit of the second level and decoding, by the decoder (230), the transform unit of the second level based on the second coded pattern information of a luma component and the second coded pattern information of a chroma component,

wherein, the second coded pattern information of a chroma component is obtained from the bitstream, regardless the second transform unit split flag and the prediction mode of the coding unit, and

wherein, the second coded pattern information of the luma component is not obtained from the bitstream in response to that the prediction mode of the coding unit is an intra prediction mode and the second transform unit split flag indicates that the transform unit of the second level is split into the transform units of a third level.

3. The video decoding method of claim 2, wherein, when the transform unit of a first level is split into the transform units of a second level:

the coded pattern information of a chroma component in the transform unit of a first level and the second coded pattern information of a chroma component in the transform unit of the second level are obtained from the bitstream, and

the second coded pattern information of the luma component in the transform unit of the second level is obtained from the bitstream, without obtaining the coded pattern information of the luma component in the transform unit of a first level.