CLAIMS

1. A video encoding method comprising:

generating first maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

generating second maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

generating information about a prediction mode of a current coding unit, the information indicating one of the intra mode and the inter mode;

determining a first maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit based on the first maximum split information when the current coding unit is predicted according to the intra mode, and determining a second maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit based on the second maximum split information when the current coding unit is predicted according to the inter mode;

generating sub-split information about a current transformation unit when a current split level of the current transformation unit determined from the current coding unit is less than the first maximum split level or the second maximum split level; and

generating quantized transformation coefficients of the current transformation unit,

wherein, when the current transformation unit is split into a next split level of transformation units, the sub-split information is generated for indicating a split of the current transformation unit,

wherein the next split level is greater than the current split level.

2. A video encoding method comprising:

generating maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

generating information about a prediction mode of a current coding unit, the information indicating one of the intra mode and an inter mode;

determining a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit based on the maximum split information when the current coding unit is predicted according to the intra mode;

generating sub-split information about a current transformation unit when a current split level of the current transformation unit determined from the current coding unit is less than the maximum split level; and

generating quantized transformation coefficients of the current transformation unit,

wherein, when the current transformation unit is split into a next split level of transformation units, the sub-split information is generated for indicating a split of the current transformation unit,

wherein the next split level is greater than the current split level.

3. A video encoding method comprising:

generating maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

generating information about a prediction mode of a current coding unit, the information indicating one of an intra mode and the inter mode;

determining a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit based on the maximum split information when the current coding unit is predicted according to the inter mode;

generating sub-split information about a current transformation unit when a current split level of the current transformation unit determined from the current coding unit is less than the maximum split level; and

generating quantized transformation coefficients of the current transformation unit,

wherein, when the current transformation unit is split into a next split level of transformation units, the sub-split information is generated for indicating a split of the current transformation unit,

wherein the next split level is greater than the current split level.

4. A video encoding method comprising:

generating first maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

generating second maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

generating information about a prediction mode of a current coding unit, the information indicating one of the intra mode and the inter mode;

determining a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit based on the first maximum split information when the current coding unit is predicted according to the intra mode;

generating sub-split information about a current transformation unit when a current split level of the current transformation unit determined from the current coding unit is less than the maximum split level; and

generating quantized transformation coefficients of the current transformation unit,

wherein, when the current transformation unit is split into a next split level of transformation units, the sub-split information is generated for indicating a split of the current transformation unit,

wherein the next split level is greater than the current split level,

wherein the first maximum split information is generated separately from the second maximum split information.

5. A video encoding method comprising:

generating first maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

generating second maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

generating information about a prediction mode of a current coding unit, the information indicating one of the intra mode and the inter mode;

determining a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit based on the first maximum split information when the current coding unit is predicted according to the inter mode;

generating sub-split information about a current transformation unit when a current split level of the current transformation unit determined from the current coding unit is less than the maximum split level; and

generating quantized transformation coefficients of the current transformation

unit,

wherein, when the current transformation unit is split into a next split level of transformation units, the sub-split information is generated for indicating a split of the current transformation unit,

wherein the next split level is greater than the current split level,

wherein the first maximum split information is generated separately from the second maximum split information.

6. A non-transitory computer-readable recording medium for recording a bitstream, the bitstream comprising:

first maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

second maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

information about a prediction mode of a current coding unit, the information indicating one of the intra mode and the inter mode;

encoded data generated based on quantized transformation coefficients of a current transformation unit determined from the current coding unit; and

sub-split information for splitting the current transformation unit of a current split level into a next split level of transformation units,

wherein the next split level is greater than the current split level,

wherein the sub-split information is comprised in the bitstream when the current split level of the current transformation unit is less than a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit,

wherein the first maximum split information is information for determining the maximum split level when the current coding unit is predicted according to the intra mode,

wherein the second maximum split information is information for determining the maximum split level when the current coding unit is predicted according to the inter mode.

7. A non-transitory computer-readable recording medium for recording a

bitstream, the bitstream comprising:

maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

information about a prediction mode of a current coding unit, the information indicating one of the intra mode and an inter mode;

encoded data generated based on quantized transformation coefficients of a current transformation unit determined from the current coding unit; and

sub-split information for splitting the current transformation unit of a current split level into a next split level of transformation units,

wherein the next split level is greater than the current split level,

wherein the sub-split information is comprised in the bitstream when the current split level of the current transformation unit is less than a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit,

wherein the maximum split information is information for determining the maximum split level when the current coding unit is predicted according to the intra mode.

8. A non-transitory computer-readable recording medium for recording a bitstream, the bitstream comprising:

maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

information about a prediction mode of a current coding unit, the information indicating one of the inter mode and an intra mode;

encoded data generated based on quantized transformation coefficients of a current transformation unit determined from the current coding unit; and

sub-split information for splitting the current transformation unit of a current split level into a next split level of transformation units,

wherein the next split level is greater than the current split level,

wherein the sub-split information is comprised in the bitstream when the current split level of the current transformation unit is less than a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit,

wherein the maximum split information is information for determining the maximum split level when the current coding unit is predicted according to the inter mode.

9. A non-transitory computer-readable recording medium for recording a bitstream, the bitstream comprising:

first maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

second maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

information about a prediction mode of a current coding unit, the information indicating one of the intra mode and the inter mode;

encoded data generated based on quantized transformation coefficients of a current transformation unit determined from the current coding unit; and

sub-split information for splitting the current transformation unit of a current split level into a next split level of transformation units,

wherein the next split level is greater than the current split level,

wherein the sub-split information is comprised in the bitstream when the current split level of the current transformation unit is less than a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit,

wherein the first maximum split information is generated separately from the second maximum split information,

wherein the first maximum split is information for determining the maximum split level when the current transformation unit is predicted according to the intra mode.

10. A non-transitory computer-readable recording medium for recording a bitstream, the bitstream comprising:

first maximum split information of a transformation unit with respect to a coding unit predicted according to an inter mode;

second maximum split information of a transformation unit with respect to a coding unit predicted according to an intra mode;

information about a prediction mode of a current coding unit, the information

indicating one of the inter mode and the intra mode;

encoded data generated based on quantized transformation coefficients of a current transformation unit determined from the current coding unit; and

sub-split information for splitting the current transformation unit of a current split level into a next split level of transformation units,

wherein the next split level is greater than the current split level,

wherein the sub-split information is comprised in the bitstream when the current split level of the current transformation unit is less than a maximum split level indicating a total number of allowable levels of transformation units with respect to the current coding unit,

wherein the first maximum split information is generated separately from the second maximum split information,

wherein the first maximum split is information for determining the maximum split level when the current transformation unit is predicted according to the inter mode.