CLAIMS

[1] An image encoding device comprising:

a block dividing unit for dividing an inputted image which comprises a luminance signal and a color difference signal into blocks each of which is a unit for a prediction process;

a prediction image generating unit for carrying out an intra prediction process on the luminance signal and a color difference signal of a target block using an intra prediction parameter to generate a prediction image; and

a variable length encoding unit for performing a variable-length-encoding process on the intra prediction parameter,

wherein the prediction image generating unit carries out the intra prediction process on the color difference signal of the target block by using an intra prediction parameter which is the same as an intra prediction parameter which the prediction image generating unit used to carry out the intra prediction process on the luminance signal of the target block or by using an average prediction process, and the variable length encoding unit generates a coded data indicating one of the intra prediction processes on the color difference signal of the target block, the intra prediction processes include at least the intra prediction process using the intra prediction parameter used for the luminance signal of the target block and the intra prediction process using the average prediction process.

[2] An image decoding device comprising:

a variable length decoding unit for performing a variable-length-decoding process on an intra prediction parameter; and

a prediction image generating unit for carrying out an intra prediction process on a target block by using the intra

prediction parameter to generate a prediction image which comprises a luminance signal and a color difference signal;

wherein the variable length decoding unit performs a variable-length-decoding process on a coded data indicating one of the intra prediction processes on the color difference signal of the target block, the intra prediction processes include at least the intra prediction process using the intra prediction parameter which is the same as an intra prediction parameter to be used for the luminance signal of the target block and the intra prediction process using an average prediction process,

the prediction image generating unit carries out the intra prediction process on the color difference signal of the target block according to the coded data.

[3] An image encoding method comprising:

a step for dividing an inputted image which comprises a luminance signal and a color difference signal into blocks each of which is a unit for prediction process;

a step for carrying out an intra prediction process on the luminance signal and a color difference signal of a target block using an intra prediction parameter to generate a prediction image; and

a step for performing a variable-length-encoding process on the intra prediction parameter,

wherein the intra prediction process on the color difference signal of the target block is carried out by using the intra prediction parameter which is used to carry out the intra prediction process on the luminance signal of the target block or by using an average prediction process, and

the variable-length-encoding process generates a coded data indicating one of the intra prediction processes on the color difference signal of the target block, the intra prediction

processes include at least the intra prediction process using the intra prediction parameter which is the same as an intra prediction parameter used for the luminance signal of the target block and the intra prediction process using the average prediction process.

[4] An image decoding method comprising:

a step for performing a variable-length-decoding process on an intra prediction parameter; and

a step for carrying out an intra prediction process on a target block by using the intra prediction parameter to generate a prediction image which comprises a luminance signal and a color difference signal;

wherein the intra prediction process on the color difference signal of the target block is carried out according to a coded data indicating one of the intra prediction processes on the color difference signal of the target block, the intra prediction processes include at least the intra prediction process using the intra prediction parameter which is the same as an intra prediction parameter used for the luminance signal of the target block and the intra prediction process using an average prediction process.

[5] A non-transitory computer-readable storage medium storing a bitstream generated by performing a block based prediction process on an input image, the bit stream comprising:

a coding mode indicating whether a block of the input image is predicted by an inter coding mode or an intra coding mode;

an intra prediction parameter used to generate a luminance signal of an intra prediction image for an intra prediction block predicted by the intra coding mode; and

a coded data indicating one of intra prediction processes on a color difference signal of a target block, the intra prediction processes including at least an intra prediction process using the intra prediction parameter which is the same as an intra prediction parameter used to generate the luminance signal of the intra prediction image for the intra prediction block and an intra prediction process using an average prediction process.