**Claims-Markup: PPH-Related Claim Amendments for PCT National Phase Entry into Singapore**

1. A method for selecting image coding prediction modes, the method comprising the steps below:

(1) Presetting a plurality of coding prediction modes; each coding prediction mode corresponds to a set of reference sample values, and a macroblock predicted value can be derived from the reference sample values;

(2) Selecting a fixed quantity of coding prediction modes to form a selection set corresponding to each coding scene; wherein the coding prediction modes include Intra Coding Prediction Modes, and the Intra Coding Prediction Modes consist of Conventional Intra Coding Prediction Modes and Isolated Intra Coding Prediction Modes; the coding scenes include an intra-only scene and a general scene, and Intra Coding Prediction Modes are applicable to the general scene;

(3) For a current macroblock, selecting an optimal coding prediction mode based on the macroblock predicted value corresponding to each coding prediction mode within the selection set;

(4) Configuring a prediction mode field to store the optimal coding prediction mode value, and transmitting the field together with the encoded bit stream to the decoding side;

Wherein the sub-steps for constructing the coding prediction mode selection set for the general scene under Step (2) are as follows:

(21) Creating an image dataset for the intra-only scene; the dataset size and image pixel dimensions are configured according to practical application requirements;

(22) Configuring encoding network parameters, adopting all Conventional Intra Coding Prediction Modes as the initial selection set, selecting the optimal coding prediction mode to encode the dataset, and calculating the Peak Signal-to-Noise Ratio (PSNR) after decoding;

(23) Removing one Conventional Intra Coding Prediction Mode from the set while retaining the rest; selecting the optimal coding prediction mode from the remaining set to encode the dataset, and calculating a second Peak Signal-to-Noise Ratio (PSNR) after decoding;

(24) Comparing the first PSNR with each second PSNR sequentially, screening the second PSNR with the minimum deviation from the first PSNR, and marking the correspondingly removed mode as a Negligible Conventional Intra Coding Prediction Mode;

(25) Replacing the Negligible Conventional Intra Coding Prediction Mode with an Isolated Intra Coding Prediction Mode to form the Intra Coding Prediction Mode selection set for general scenes.

2.The method according to Claim 1, wherein the Conventional Intra Coding Prediction Modes cover the intra prediction modes defined in the H.264 standard; the Isolated Intra Coding Prediction Modes calculate reference sample values based on pixel depth during encoding.

3.The method according to Claim 1, wherein the coding prediction modes further include Inter Coding Prediction Modes; under an Inter Coding Prediction Mode, the reference sample value of the current macroblock is the reconstructed sample value at the matching position in the previous frame.

4.The method according to Claim 3, wherein Inter Coding Prediction Modes are also applicable to the general scene; under Sub-step (25), the Negligible Conventional Intra Coding Prediction Mode is replaced with an Inter Coding Prediction Mode to form the Inter Coding Prediction Mode selection set for general scenes.

5.The method according to Claim 4, wherein image frames in the general scene include I-frames and P-frames; intra coding is applied to I-frames, and inter coding is applied to P-frames.

6.The method according to Claim 4, wherein image frames in the general scene adopt GDR coding mode; intra-slice regions use intra coding, and inter-slice regions use inter coding.

7.The method according to Claim 1, wherein only Conventional Intra Coding Prediction Modes are applicable to the intra-only scene, and the selection set for the intra-only scene solely contains Conventional Intra Coding Prediction Modes.

8.The method according to any one of Claims 1 to 7, wherein the steps of selecting the optimal coding prediction mode under Step (3) are as follows:

(31) Inputting position information of the current macroblock and the coding prediction mode selection set corresponding to the current scene;

(32) For each Conventional Intra Coding Prediction Mode, retrieving the matching reference sample values from the source image of the frame where the current macroblock is located;

(33) Obtaining the macroblock predicted value corresponding to each coding prediction mode, and selecting the optimal coding prediction mode from the set in accordance with predetermined rules.

9.The method according to any one of Claims 1 to 7, wherein the prediction mode field under Step (4) comprises a flag bit and data bits; the sub-steps for configuring the field to store the optimal coding prediction mode value are as follows:

(41) Initialising the optimal coding prediction mode value of the previous macroblock;

(42) If the optimal coding prediction mode value of the current macroblock equals that of the previous macroblock, set the flag bit to 1 and set the field length to 1; otherwise proceed to Sub-step (43);

(43) If the optimal coding prediction mode value of the current macroblock is smaller than that of the previous macroblock, set the flag bit to 0, assign the current mode value to the data bits, and set the field length to 4; otherwise proceed to Sub-step (44);

(44) Set the flag bit to 0, assign the value of the current optimal mode minus 1 to the data bits, and set the field length to 4.