CLAIMS

1. A method of video coding implemented in a decoding device or an encoding device, the method comprising:

obtaining a pair of initial motion vectors for a current block;

obtaining two first prediction blocks for ~~a sample value in~~ the current block based on the pair of initial motion vectors;

calculating a first matching cost according to the two first prediction blocks;

obtaining a pair of refined motion vectors and a second matching cost corresponding to the pair of refined motion vectors;

obtaining two second prediction blocks for the current block according to the pair of refined motion vectors;

determining whether an optical flow refinement process should be performed or not, according to at least one preset condition, the at least one preset condition comprising a condition of whether the ~~calculated first~~ second matching cost is ~~equal to or larger~~ less than a threshold;

performing an optical flow refinement process for obtaining a final inter prediction for ~~the sample value in~~ the current block, when it is determined that the optical flow refinement process should be performed~~.~~ ;

when it is determined that the optical flow refinement process should not be performed, the final inter prediction is obtained by a weighted sum of the two second prediction blocks.

2. The method of claim 1, wherein the at least one preset condition comprises the condition that the current block is allowed to be predicted by decoder-side motion vector refinement.

3. The method of claim 1 ~~or 2~~, wherein it is determined that the optical flow refinement process should be performed, when it is determined that all of the at least one preset conditions are fulfilled.

4. The method of ~~one of the preceding claims~~claim 1, wherein the first predictions for the sample value in the current block are obtained based on a first interpolation filter.

5. The method of claim 4, wherein the first interpolation filter is a bilinear interpolation filter.

~~6. The method of one of the preceding claims, further comprising:~~

~~obtaining refined motion vectors based on the initial motion vectors and the first matching cost;~~

~~obtaining second predictions for the sample value in the current block according to the refined motion vectors; and~~

~~the performing an optical flow refinement process comprising performing the optical flow refinement based on the second predictions.~~

~~7. The method of any of the claims 1 to 6, wherein the obtaining first predictions for a sample value in the current block based on the initial motion vectors comprises: obtaining a number of pairs of candidates based on the initial motion vectors;~~

~~obtaining first predictions for a sample value in the current block based on at least one of the pairs of candidates;~~

~~and wherein~~

~~the calculating a first matching cost according to the first predictions comprises determining a matching cost for each of the pairs of candidates based on the first predictions and~~

~~determining the smallest matching cost of the determined matching costs as the first matching cost.~~

~~8~~6. The method of claim ~~6 or 7~~1, wherein the two second prediction blocks for the ~~sample value in the~~ current block are obtained according to a second interpolation filter.

~~9~~7. The method of ~~one of the claims 6 to 8~~claim 6, wherein the second interpolation filter is a 6-tap or 8-tap interpolation filter.

~~10. The method of one of the claims 6 to 9, wherein the refined motion vectors are obtained according to a second matching cost.~~

~~11~~8. The method of claim ~~10~~1, wherein when ~~a value of~~ the second matching cost is greater than or equal to ~~another~~ the threshold value, it is determined that the optical flow refinement process should be performed.

~~12. The method of one of the claims 6 to 11, wherein only when it is determined that the optical flow refinement process should not be performed, the final inter prediction is obtained by a weighted sum of the second predictions.~~

~~13~~9. The method of ~~one of the preceding claims~~claim 1, wherein the threshold value is obtained according to the size of the current block.

~~14~~10. The method of ~~one of the preceding claims~~claim 1, wherein the current block is a coding block or a sub-block.

~~15~~11. The method of ~~one of the preceding claims~~claim 1, further comprising generating an inter prediction block comprising the final inter prediction for the ~~sample value in the~~

current block.

~~16~~12. An encoder ~~(20)~~ comprising processing circuitry for carrying out the method according to any one of claims 1 to ~~15~~11.

~~17~~13. A decoder ~~(30)~~ comprising processing circuitry for carrying out the method according to any one of claims 1 to ~~15~~11.

~~18~~14. A computer program ~~product comprising~~ being stored in a computer-readable storage medium, wherein the computer program comprises a program code for performing the method according to any one of claims 1 to ~~15~~11.