ABSTRACT OF THE DISCLOSURE

An apparatus for video decoding includes processing circuitry. The circuitry can be configured to determine whether to apply the PROF to an affine coded block, and responsive to a determination to apply the PROF to the affine coded block, perform a PROF process. For example, during the PROF process, a prediction sample I(i,j) at a sample location (i,j) in the affine coded block can be generated. Spatial gradients g_x (i,j) and g_y (i,j) at the sample location (i,j) in the affine coded block can be generated. A prediction refinement ΔI(i,j) based on the spatial gradients g_x (i,j) and g_y (i,j) can be generated. The prediction refinement ΔI(i,j) can added to the prediction sample I(i,j) to generate a refined prediction sample. The PROF for affine prediction can be enabled according to a syntax element received at the decoder, or can be enabled by default.

FIG.18