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(54) Title: MULTI-RANGE HDR VIDEO CODING

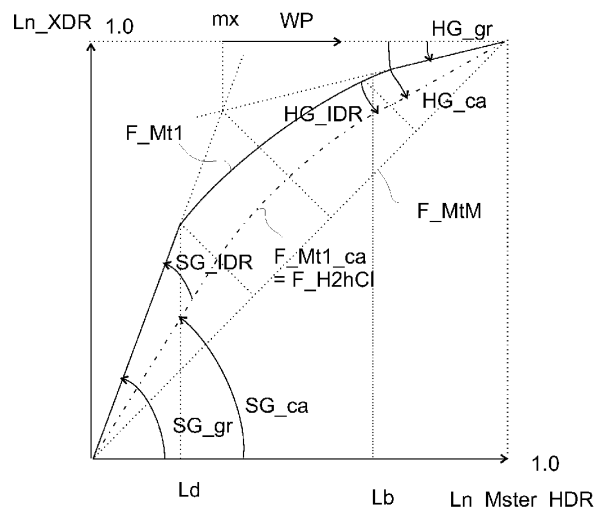


Fig. 10

(57) **Abstract:** At least some applications in the total HDR video chain desire some more sophisticated approach, such as a high dynamic range video encoder (900), arranged to receive via an image input (920) an input high dynamic range image (MsterHDR) which has a first maximum pixel luminance (PB_C_H50), the encoder being arranged to receive via a metadata input (921) a master luma mapping function (FL_50t1), which luma mapping function defines the relationship between normalized lumas of the input high dynamic range image and normalized lumas of a corresponding standard dynamic range image (Im_LDR) having a maximum pixel luminance of preferably 100 nit, characterized in that the encoder further comprises a metadata input (923) to receive a second maximum pixel luminance (PB_CH), and the encoder further being characterized in that it comprises: - a HDR function generation unit (901) arranged to apply a standardized algorithm to transform the master luma mapping function (FL_50t1) into a adapted luma

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mapping function (F_H2hCI), which relates normalized lumas of the input high dynamic range image to normalized luminances of an intermediate dynamic range image (IDR) which is characterized by having a maximum possible luminance being equal to the second maximum pixel luminance (PB_CH); an IDR image calculation unit (902) arranged to apply the adapted luma mapping function (F_H2hCI) to lumas of pixels of the input high dynamic range image (MsterHDR) to obtain lumas of pixels of the intermediate dynamic range image (IDR); and an IDR mapping function generator (903) arranged to derive on the basis of the master luma mapping function (FL_50t1) and the adapted luma mapping function (F_H2hCI) a channel luma mapping function (F_I2sCI), which defines as output the respective normalized lumas of the standard dynamic range image (Im_LDR) when given as input the respective normalized lumas of the intermediate dynamic range image (IDR); the encoder being further characterized to have as output: the intermediate dynamic range image (IDR), as first metadata the second maximum pixel luminance (PB_CH), as second metadata the channel luma mapping function (F_I2sCI); and as third metadata the first maximum pixel luminance (PB_C_H50).