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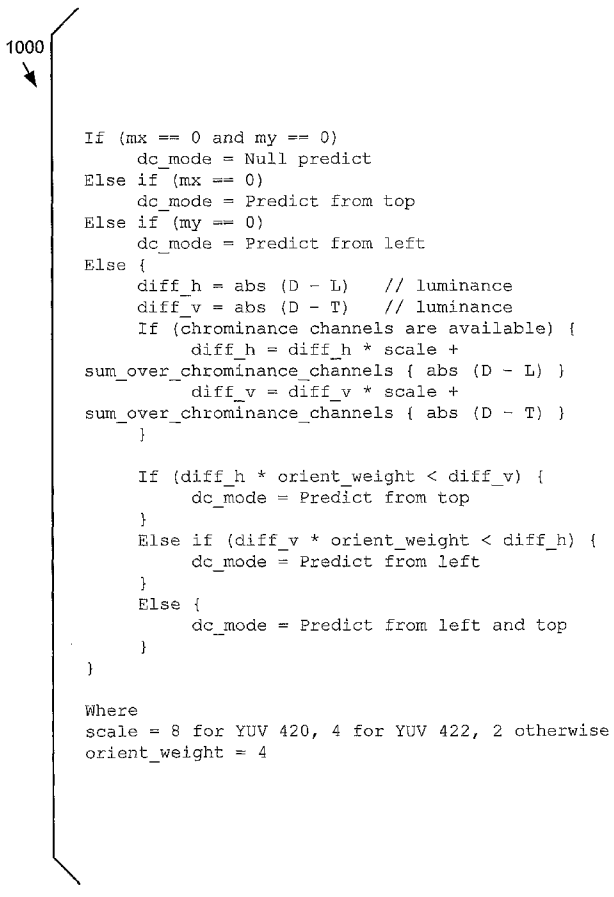
Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

[Continued on next page]

(54) Title: PREDICTION OF TRANSFORM COEFFICIENTS FOR IMAGE COMPRESSION



(57) Abstract: A block transform-based digital media codec uses a transform coefficient prediction that takes into account a dominant directionality of the digital media data (e.g., an image with strong horizontal or vertical features), and further operates compatibly with a two-stage transform. For DC and DCAC coefficients from an inner stage transform of a macroblock, the codec calculates and compares directionality metrics based on inner stage transform DC coefficients of neighboring macroblocks to determine dominant directionality. For DCAC coefficients from an outer stage transform of blocks within the macroblock, the codec calculates and compares directionality metrics based on the inner stage transform DCAC coefficients of the macroblock to detect dominant directionality. The determination of directional dominance can also take into account information from other channels (e.g., chrominance as well as luminance).

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