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(54) Title: METHOD FOR ENCODING AND DECODING A POINT CLOUD

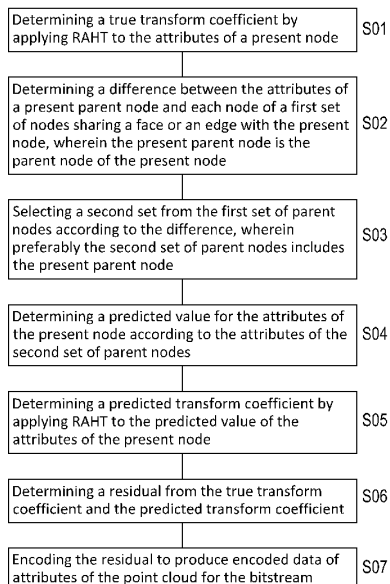


Fig. 1

(57) Abstract: Method for encoding and decoding attributes of a point cloud, as well as encoder and decoder. Therein, the method for encoding attributes of points of a point cloud to generate a bitstream of compressed point cloud data, wherein the point cloud's geometry is represented by a voxel-based structure with a plurality of nodes having parent-child relationships by recursively splitting a volumetric space containing the point cloud into sub-volumes each associated with a node of the voxel-based structure, comprises the steps of: Determining a true transform coefficient by applying Region-Adaptive Hierarchical Transform, RAHT, to the attributes of a present node; Determining a difference between the attributes of a present parent node and each node of a first set of nodes sharing a face or an edge with the present node, wherein the present parent node is the parent node of the present node; Selecting a second set from the first set of parent nodes according to the difference, wherein preferably the second set of parent nodes includes the present parent node; Determining a predicted value for the attributes of the present node according to the attributes of the second set of parent nodes; Determining a predicted transform coefficient by applying RAHT to the predicted value of the attributes of the present node; Determining a residual from the true transform coefficient and the predicted transform coefficient; and Encoding the residual to produce encoded data of attributes of the point cloud for the bitstream.

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