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**YUAN et al.**(10) **Pub. No.: US 2023/0232016 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **POINT CLOUD ENCODING METHOD AND  
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**ABSTRACT**(21) Appl. No.: **18/188,599**(22) Filed: **Mar. 23, 2023****Related U.S. Application Data**(63) Continuation of application No. PCT/CN2020/  
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A point cloud encoding method includes the following. For one or more points in the current coding block, an optimal prediction mode is determined by using a RDO mechanism, where a distortion parameter D in the RDO mechanism is determined according to a reconstruction distortion, and a bitrate parameter R in the RDO mechanism is determined according to a bitrate. A prediction value of the one or more points is determined by predicting the one or more points using the optimal prediction mode. A residual of the one or more points is determined according to the prediction value of the one or more points. Encoding bits are determined by encoding according to the optimal prediction mode and the residual, and the encoding bits are signaled into a bitstream.

201, determine a current coding block by partitioning a point cloud

202, determine, for one or more points in the current coding block, an optimal prediction mode by using a rate-distortion optimization (RDO) mechanism

203, determine a prediction value of the one or more points by predicting the one or more points using the optimal prediction mode

204, determine a residual of the one or more points according to the prediction value of the one or more points

205, determine encoding bits by encoding according to the optimal prediction mode and the residual, and signal the encoding bits into a bitstream