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(54) Title: ERROR RESILIENT TOOLS FOR AUDIO ENCODING/DECODING

(57) Abstract: There are provided examples of audio signal representation encoders, audio encoders, audio signal representation decoders, and audio decoders, in particular using error resilient tools, e.g. for learnable applications (e.g., using neural networks). In one examples, there is provided an audio signal representation decoder (1810, 1810a, 1810b) configured to decode an audio signal representation (1820a, 1820b) from a bitstream (1830, 1630), the bitstream (1830, 1630) being divided in a sequence of packets, the audio signal representation decoder (1810, 1810a, 1810b) comprising: a bitstream reader (1802a, 1892b), configured to sequentially read the sequence of packets (1830, 1630); a packet loss controller (1806a, 1806b), configured to check whether a current packet (1830, 1630) is well received or is to be considered as lost; a quantization index converter (1818a, 1818b), configured, in case the packet loss controller (1806a, 1806b) has determined that the current packet (1830, 1630) is well received, to convert at least one index (1804a, 1804b) extracted from the current packet (1830, 1630) onto at least one current code (1820a, 1820b) from at least one codebook, thereby forming at least one portion of the audio signal representation (1820a, 1820b); and wherein the audio signal representation decoder (1810, 1810a, 1810b) is configured, in case the packet loss controller (1806a, 1806b) has determined that the current packet is to be considered as lost, to generate, through at least one learnable predictor layer, at least one current code by prediction (1810a, 1810b) from at least one preceding code or index, thereby forming at least one portion of the audio signal representation (1820a, 1820b).

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