**IMMERSIVE VOICE AND AUDIO SERVICES (IVAS) WITH ADAPTIVE DOWNMIX STRATEGIES**

Abstract

Disclosed is an audio signal encoding/decoding method that uses an encoding downmix strategy applied at an encoder that is different than a decoding re-mix/upmix strategy applied at a decoder. Based on the type of downmix coding scheme, the method comprises: computing input downmixing gains to be applied to the input audio signal to construct a primary downmix channel; determining downmix scaling gains to scale the primary downmix channel; generating prediction gains based on the input audio signal, the input downmixing gains and the downmix scaling gains; determining residual channel(s) from the side channels by using the primary downmix channel and the prediction gains to generate side channel predictions and subtracting the side channel predictions from the side channels; determining decorrelation gains based on energy in the residual channels; encoding the primary downmix channel, the residual channel(s), the prediction gains and the decorrelation gains; and sending the bitstream to a decoder.

Fig. 2