



US 20220352900A1

(19) **United States**(12) **Patent Application Publication**
Wuebbolt(10) **Pub. No.: US 2022/0352900 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **METHOD AND DEVICE FOR ARITHMETIC
ENCODING OR ARITHMETIC DECODING**(71) Applicant: **DOLBY LABORATORIES
LICENSING CORPORATION**, San
Francisco, CA (US)(72) Inventor: **Oliver Wuebbolt**, Hannover (DE)(73) Assignee: **DOLBY LABORATORIES
LICENSING CORPORATION**, San
Francisco, CA (US)(21) Appl. No.: **17/854,866**(22) Filed: **Jun. 30, 2022****Related U.S. Application Data**

(60) Continuation of application No. 17/092,648, filed on Nov. 9, 2020, now Pat. No. 11,381,249, which is a division of application No. 16/677,539, filed on Nov. 7, 2019, now Pat. No. 10,848,180, which is a division of application No. 15/952,082, filed on Apr. 12, 2018, now Pat. No. 10,516,414, which is a division of application No. 14/924,156, filed on Oct. 27, 2015, now Pat. No. 9,973,208, which is a continuation of application No. 13/500,106, filed on Apr. 4, 2012, now Pat. No. 9,219,498, filed as application No. PCT/EP2010/064644 on Oct. 1, 2010.

Foreign Application Priority Data

Oct. 9, 2009 (EP) 09305961.6

Publication Classification(51) **Int. Cl.****H03M 7/40** (2006.01)**H04N 19/124** (2006.01)**H04N 19/182** (2006.01)(52) **U.S. Cl.**CPC **H03M 7/4006** (2013.01); **H04N 19/124**
(2014.11); **H04N 19/182** (2014.11)

(57)

ABSTRACT

The invention proposes a method and a device for arithmetic encoding of a current spectral coefficient using preceding spectral coefficients. Said preceding spectral coefficients are already encoded and both, said preceding and current spectral coefficients, are comprised in one or more quantized spectra resulting from quantizing time-frequency-transform of video, audio or speech signal sample values.

Said method comprises processing the preceding spectral coefficients, using the processed preceding spectral coefficients for determining a context class being one of at least two different context classes, using the determined context class and a mapping from the at least two different context classes to at least two different probability density functions for determining the probability density function, and arithmetic encoding the current spectral coefficient based on the determined probability density function wherein processing the preceding spectral coefficients comprises non-uniformly quantizing absolutes of the preceding spectral coefficients for use in determining of the context class.

