

Title (en)
PERCEPTUAL OPTIMIZATION FOR MODEL-BASED VIDEO ENCODING

Title (de)
WAHRNEHMUNGSOPTIMIERUNG FÜR MODELLBASIERTE VIDEOCODIERUNG

Title (fr)
OPTIMISATION DE LA PERCEPTION POUR CODAGE VIDÉO À BASE DE MODÈLES

Publication
EP 3175618 A1 20170607 (EN)

Application
EP 15770689 A 20150903

Priority

- US 201462049342 P 20140911
- US 201414532947 A 20141104
- US 201462078181 P 20141111
- US 201562158523 P 20150507
- US 2015048353 W 20150903

Abstract (en)
[origin: WO2016040116A1] Perceptual statistics may be used to compute importance maps that indicate which regions of a video frame are important to the human visual system. Importance maps may be applied to the video encoding process to enhance the quality of encoded bitstreams. The temporal contrast sensitivity function (TCSF) may be computed from the encoder's motion vectors. Motion vector quality metrics may be used to construct a true motion vector map (TMVM) that can be used to refine the TCSF. Spatial complexity maps (SCMs) can be calculated from metrics such as block variance, block luminance, SSIM, and edge strength, and the SCMs can be combined with the TCSF to obtain a unified importance map. Importance maps may be used to improve encoding by modifying the criterion for selecting optimum encoding solutions or by modifying the quantization for each target block to be encoded.

IPC 8 full level
H04N 19/139 (2014.01); **H04N 19/124** (2014.01); **H04N 19/136** (2014.01); **H04N 19/137** (2014.01); **H04N 19/14** (2014.01); **H04N 19/154** (2014.01); **H04N 19/176** (2014.01)

CPC (source: CN EP)
H04N 19/124 (2014.11 - CN EP); **H04N 19/136** (2014.11 - CN EP); **H04N 19/137** (2014.11 - CN EP); **H04N 19/139** (2014.11 - CN EP); **H04N 19/14** (2014.11 - CN EP); **H04N 19/154** (2014.11 - CN EP); **H04N 19/176** (2014.11 - CN EP); **H04N 19/527** (2014.11 - CN)

Citation (search report)
See references of WO 2016040116A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
WO 2016040116 A1 20160317; CA 2960617 A1 20160317; CN 106688232 A 20170517; EP 3175618 A1 20170607; JP 2017532858 A 20171102; JP 6698077 B2 20200527

DOCDB simple family (application)
US 2015048353 W 20150903; CA 2960617 A 20150903; CN 201580049004 A 20150903; EP 15770689 A 20150903; JP 2017513750 A 20150903