

**CPC****COOPERATIVE PATENT CLASSIFICATION****G06T**

**IMAGE DATA PROCESSING OR GENERATION, IN GENERAL** ( specially adapted for particular applications, see the relevant subclasses, e.g. [G06K](#) , [G09G](#) , [H04N](#) )

**NOTE**

This subclass covers:

- arrangements for geometrically modelling objects, whether the final model is used for display of an image of the object or for some other purpose, such as manufacture of a corresponding object;
- arrangements for analysing the geometric attributes of an image of an object.

This subclass does not cover:

- reading or recognising printed or written characters or recognising patterns, e.g. fingerprints, which is covered by subclass [G06K](#) ;
- modification of image data to allow display using multiple viewports, which is covered by subclass [G09G](#) ;
- circuits for generating functions for visual indicators, which are covered by subclass [G09G](#) ;
- scanning of documents or the like in pictorial communication, which is covered by subclass [H04N](#) .

**WARNING**

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:  
[G06T 1/40](#) covered by [G06T 1/20](#)

**G06T 1/00****General purpose image data processing****G06T 1/0007**

- . { Image acquisition }

**G06T 1/0014**

- . { Image feed-back for automatic industrial control, e.g. robot with camera ( [robots B25J 19/023](#) ) }

**G06T 1/0021**

- . { Image watermarking }

**G06T 1/0028**

- .. { Adaptive watermarking, e.g. Human Visual System (HVS)-based watermarking }

**G06T 1/0035**

- ... { Output size adaptive watermarking }

**G06T 1/0042**

- .. { Fragile watermarking, e.g. so as to detect tampering }

**G06T 1/005**

- .. { Robust watermarking, e.g. average attack or collusion attack resistant }

**G06T 1/0057**

- ... { Compression invariant watermarking }

**G06T 1/0064**

- ... { Geometric transform invariant watermarking, e.g. affine transform invariant }

**G06T 1/0071**

- ... { using multiple or alternating watermarks }

**G06T 1/0078**

- ... { using multiple thresholds }

**G06T 1/0085**

- .. { Time domain based watermarking, e.g. watermarks spread over several images }

**G06T 1/0092**

- .. { Payload characteristic determination in a watermarking scheme, e.g. number of bits to be embedded }

- G06T 1/20 . Processor architectures ; Processor configuration, e.g. pipelining ( [architectures of general purpose stored programme computers G06F 15/76](#) )
- G06T 1/60 . Memory management
- G06T 3/00      Geometric image transformation in the plane of the image, e.g. from bit-mapped to bit-mapped creating a different image**
- G06T 3/0006 . { Affine transformations ( [G06T 3/4038](#) , [G06T 3/0068](#) take precedence ) }
- G06T 3/0012 . { Context preserving transformation, e.g. by using an importance map ( [G06T 3/0062](#) takes precedence ) }
- G06T 3/0018 .. { Fisheye, wide-angle transformation }
- G06T 3/0025 .. { Detail-in-context presentation ( [G06T 3/0018](#) takes precedence ) }
- G06T 3/0031 . { for topological mapping of a higher dimensional structure on a lower dimensional surface }
- G06T 3/0037 .. { Reshaping or unfolding a 3D tree structure onto a 2D plane }
- G06T 3/0043 .. { Surface of revolution to planar image transformation }
- G06T 3/005 . { for projecting an image on a non-planar surface, e.g. a geodetic screen }
- G06T 3/0056 . { the transformation method being selected according to the characteristics of the input image }
- G06T 3/0062 . { Panospheric to cylindrical image transformation }
- G06T 3/0068 . { for image registration, e.g. elastic snapping }
- G06T 3/0075 .. { using affine transformations }
- G06T 3/0081 .. { by elastic snapping }
- G06T 3/0087 . { Spatio-temporal transformations, e.g. video cubism }
- G06T 3/0093 . { for image warping, i.e. transforming by individually repositioning each pixel }
- G06T 3/20 . Linear translation of a whole image or part thereof, e.g. panning
- G06T 3/40 . Scaling the whole image or part thereof
- G06T 3/4007 .. { Interpolation-based scaling, e.g. bilinear interpolation ( [G06T 3/4015](#) , [G06T 3/403](#) take precedence ) }
- G06T 3/4015 .. { Demosaicing, e.g. colour filter array [CFA ] , Bayer pattern }
- G06T 3/4023 .. { Decimation- or insertion-based scaling, e.g. pixel or line decimation }
- G06T 3/403 .. { Edge-driven scaling }
- G06T 3/4038 .. { for image mosaicing, i.e. plane images composed of plane sub-images }
- G06T 3/4046 .. { using neural networks }
- G06T 3/4053 .. { Super resolution, i.e. output image resolution higher than sensor resolution }
- G06T 3/4061 ... { by injecting details from a different spectral band }
- G06T 3/4069 ... { by subpixel displacement }

- G06T 3/4076 . . . { by iteratively correcting the provisional high resolution image using the original low-resolution image }
- G06T 3/4084 . . { Transform-based scaling, e.g. FFT domain scaling }
- G06T 3/4092 . . { Image resolution transcoding, e.g. client/server architecture }
  
- G06T 3/60 . Rotation of a whole image or part thereof
- G06T 3/602 . . { Block rotation, e.g. by recursive reversing or rotating }
- G06T 3/604 . . { using a CORDIC [COordinate Rotation DIgital Compute ] device}
- G06T 3/606 . . { Rotation by memory addressing or mapping }
- G06T 3/608 . . { Skewing or deskewing, e.g. by two-pass or three-pass rotation }
  
- G06T 5/00** **Image enhancement or restoration, e.g. from bit-mapped to bit-mapped creating a similar image**
  
- G06T 5/001 . { Image restoration }
- G06T 5/002 . . { Denoising; Smoothing ( noise processing or correction adapted to be used in an image pickup device containing and electronic image sensor [H04N 5/217](#) , [H04N 5/357](#) to [H04N 5/365](#) ) }
  
- WARNING**
- Not complete pending reclassification; see also group [G06T 5/00 D](#)
  
- G06T 5/003 . . { Deblurring; Sharpening ( vibration or motion blur correction for cameras comprising an electronic image sensor [H04N 5/23264](#) ) }
  
- WARNING**
- Not complete pending reclassification; see also group [G06T 5/00 D](#)
  
- G06T 5/004 . . . { Unsharp masking }
  
- WARNING**
- Not complete pending reclassification; see also group [G06T 5/00 D](#)
  
- G06T 5/005 . . { Retouching; Inpainting; Scratch removal ( detecting, correction, reducing or removing defects, e.g. non-responsive pixels of solid state image sensors [H04N 5/367](#) , scratch removal for cinematographic films scanned by electronic image sensor [H04N 5/253](#) ) }
  
- WARNING**
- Not complete pending reclassification; see also group [G06T 5/00 D](#)
  
- G06T 5/006 . { Geometric correction ( detecting, correcting, reducing or removing artefacts resulting only from the lens unit, e.g. flare, shading, vignetting or "cos4" [H04N 5/3572](#) , correction of chromatic aberrations adapted to be used in an image pickup device containing and electronic image sensor [H04N 9/045](#) ) }
  
- G06T 5/007 . { Dynamic range modification ( applied in cameras using an electronic image sensor [H04N 5/2355](#) , [H04N 5/2356](#) ) }

**WARNING**

Not complete pending reclassification; see also groups [G06T 5/001](#) and [G06T 5/40](#)

G06T 5/008 . . { Local, e.g. shadow enhancement }

**WARNING**

Not complete pending reclassification; see also group [G06T 5/00 D](#)

G06T 5/009 . . { Global, i.e. based on properties of the image as a whole ( applied in cameras using an electronic image sensor [H04N 5/23229](#) , [H04N 5/235](#) ) }

**WARNING**

Not complete pending reclassification; see also group [G06T 5/40](#)

G06T 5/10 . by non-spatial domain filtering { ( applied in cameras using an electronic image sensor [H04N 5/23229](#) , [H04N 5/235](#) , [H04N 5/253](#) , [H04N 5/367](#) ) }

**WARNING**

Not complete pending reclassification; see also group [G06T 5/001](#)

G06T 5/20 . by the use of local operators { ( applied in cameras using an electronic image sensor [H04N 5/23229](#) , [H04N 5/235](#) , [H04N 5/253](#) , [H04N 5/367](#) ) }

G06T 5/30 . . Erosion or dilatation, e.g. thinning

G06T 5/40 . by the use of histogram techniques { ( applied in cameras using an electronic image sensor [H04N 5/23229](#) , [H04N 5/235](#) ) }

G06T 5/50 . by the use of more than one image, e.g. averaging, subtraction { ( applied in cameras using an electronic image sensor [H04N 5/23229](#) , [H04N 5/235](#) ) }

**G06T 7/00 Image analysis, e.g. from bit-mapped to non bit-mapped**

G06T 7/0002 . { Inspection of images, e.g. flaw detection ( [G06T 7/004](#) takes precedence ) }

**WARNING**

This group is being reorganised in the 5 following sub-groups

G06T 7/0004 . . { Industrial image inspection }

G06T 7/0006 . . . { using a design-rule based approach }

G06T 7/0008 . . . { checking presence/absence }

G06T 7/001 . . . { using an image reference approach ( image matching for pattern recognition or image matching in general [G06K 9/64A2](#) ) }

G06T 7/0012 . . { Biomedical image inspection }

**WARNING**

Groups G06T/00B2R and [G06T 7/0016](#) are not complete pending reclassification. See also this group

- G06T 7/0014     ...     { using an image reference approach ( image matching for pattern recognition or image matching in general [G06K 9/64A2](#) ) }
- G06T 7/0016     ....     { involving temporal comparison ( change detection in general [G06T 7/20](#) ) }
- G06T 7/0018     .     { Camera calibration, e.g. determining intrinsic or extrinsic parameters }
- G06T 7/002     ..     { Stereo camera calibration, e.g. determination of the transformation between left camera coordinate system and right camera coordinate system ( calibration aspects for stereoscopic image generation [H04N 13/00S2A7](#) ) }
- G06T 7/0022     .     { Determining parameters from multiple pictures ( depth or shape from stereo images [G06T 7/0075](#) ; depth or shape from multiple images [G06T 7/0065](#) ; stereo camera calibration [G06T 7/002](#) ) }
- G06T 7/0024     ..     { Registration of images, e.g. alignment of images ( image matching for pattern recognition or image matching in general [G06K 9/64A2](#) ) }
- G06T 7/0026     ...     { using correlation-based methods }
- G06T 7/0028     ...     { using feature-based methods }
- G06T 7/003     ....     { involving reference images or patches ( image matching for pattern recognition or image matching in general [G06K 9/64A2](#) ) }
- G06T 7/0032     ....     { involving models ( model matching for pattern recognition [G06K 9/64A2C](#) , [G06K 9/6878](#) ) }
- G06T 7/0034     ...     { using statistical methods ( image matching by comparing statistics of regions for pattern recognition [G06K 9/64S](#) ) }
- G06T 7/0036     ...     { using transform-domain based approaches }
- G06T 7/0038     ...     { Registration of image sequences }
- G06T 7/004     .     { Determining position or orientation of objects }
- G06T 7/0042     ..     { using feature-based methods }
- G06T 7/0044     ...     { involving reference images or patches ( image matching for pattern recognition or image matching in general [G06K 9/64A2](#) ) }
- G06T 7/0046     ...     { involving models ( model matching for pattern recognition [G06K 9/64A2C](#) , [G06K 9/6878](#) ) }
- G06T 7/0048     ..     { using statistical methods ( image matching by comparing statistics of regions for pattern recognition [G06K 9/64S](#) ) }
- G06T 7/0051     .     { Depth or shape recovery }
- G06T 7/0053     ..     { from shading }
- G06T 7/0055     ..     { from specularities }
- G06T 7/0057     ..     { from laser ranging and structured images, e.g. interferometry ( image acquisition and arrangements for measuring contours or curvatures of an object by projecting a pattern, thereupon [G01B 11/25](#) ) }
- G06T 7/0059     ..     { from texture }
- G06T 7/0061     ..     { from perspective effects, e.g. using vanishing points }
- G06T 7/0063     ..     { from line drawings }

- G06T 7/0065 .. { from multiple images }
- G06T 7/0067 ... { from contours }
- G06T 7/0069 ... { from focus }
- G06T 7/0071 ... { from motion }

### **WARNING**

Not complete pending reclassification; see also group [G06T 7/20](#)

- G06T 7/0073 ... { from multiple light sources, e.g. photometric stereo }
- G06T 7/0075 ... { from stereo images }
- G06T 7/0077 .... { from three or more stereo images }
- G06T 7/0079 . { Segmentation or edge detection ( image analysis based on texture or colour features [G06T 7/40](#) ; motion-based segmentation [G06T 7/2006](#) ; separation of touching or overlapping patterns for pattern recognition [G06K 9/34](#) ; extraction of features or characteristics of the image for pattern recognition [G06K 9/46](#) ) }
- G06T 7/0081 .. { Region-based segmentation } ( image analysis based on texture or colour features [G06T 7/40](#) ; separation of touching or overlapping patterns by cutting or merging for pattern recognition [G06K 9/342](#) ; quantising the analogue image signal for pattern recognition [G06K 9/38](#) ; extraction of features or characteristics of the image related to colour for pattern recognition [G06K 9/4652](#) )
- G06T 7/0083 .. { Edge-based segmentation ( detecting partial patterns or configurations [G06K 9/4604](#) ) }
- G06T 7/0085 .. { Edge detection ( detecting partial patterns or configurations [G06K 9/4604](#) ) }
- G06T 7/0087 .. { involving probabilistic approaches, e.g. Markov Random Field [MRF] modeling ( Markov models or related models or networks embedding Markov models for pattern recognition [G06K 9/6297](#) ; classification techniques based on a parametric, e.g. probabilistic, model [G06K 9/6277](#) ; detecting partial patterns or configurations by analysing connectivity relationship of elements of the pattern [G06K 9/4638](#) ) }
- G06T 7/0089 .. { involving deformable models, e.g. active contour ( pattern recognition techniques involving a deformation of the sample or reference pattern or elastic matching [G06K 9/64A2D](#) ) }
- G06T 7/0091 .. { involving morphological operators ( combinations of preprocessing functions using a local operator for pattern recognition [G06K 9/56](#) ) }
- G06T 7/0093 .. { involving graph-based approaches ( non-hierarchical partitioning techniques based on graph theory for pattern recognition [G06K 9/6224](#) ) }
- G06T 7/0095 .. { involving transform domain approaches ( detecting partial patterns, e.g. edges or contours, using the Hough transform for pattern recognition [G06K 9/4633](#) ) }
- G06T 7/0097 .. { involving the use of two or more images }
- G06T 7/20 . Analysis of motion { ( movement detection in television systems [H04N 5/144](#) ; motion estimation for digital video signal compression [H04N 7/2676](#) ; recognizing scenes under surveillance and traffic patterns [G06K 9/00771](#) , [G06K 9/00785](#) ) }

### **WARNING**

This group is being reorganised. Documents dealing with shape from motion are reclassified to [G06T 7/0071](#) and a sub-group [G06T 7/2006](#) is created

- G06T 7/2006 .. { Motion-based segmentation }

**WARNING**

Not complete pending reclassification; see also group [G06T 7/20](#)

- G06T 7/2013 .. { using block-matching }
- G06T 7/202 ... { using full search }
- G06T 7/2026 ... { using non-full search, e.g. three step search }
- G06T 7/2033 .. { using feature-based methods, e.g. corners, segments }
- G06T 7/204 ... { involving reference images or patches ( image matching for pattern recognition or image matching in general [G06K 9/64A2](#) ) }

**WARNING**

Not complete pending reclassification; see also group [G06T 7/20](#)

- G06T 7/2046 ... { involving models ( model matching for pattern recognition [G06K 9/64A2C](#) , [G06K 9/6878](#) ) }

**WARNING**

Not complete pending reclassification; see also group [G06T 7/20](#)

- G06T 7/2053 .. { involving subtraction of pictures }
- G06T 7/206 .. { using transform domain based approaches, e.g. Fourier }
- G06T 7/2066 .. { using gradient-based methods }
- G06T 7/2073 .. { Motion estimation over a hierarchy of resolutions }
- G06T 7/208 .. { involving a stochastic approach, e.g. Kalman filter }
- G06T 7/2086 .. { Computing motion from a sequence of stereo images }
- G06T 7/2093 .. [Multi-camera tracking]

**WARNING**

Not complete pending reclassification; see also group [G06T 7/20](#)

- G06T 7/40 . Analysis of texture { ( depth or shape from texture [G06T 7/0059](#) ) }
- G06T 7/401 .. { based on statistical texture description }
- G06T 7/402 ... { using transform-domain based approaches }
- G06T 7/403 ... { using image operators, e.g. filter, edge density, local histograms }
- G06T 7/404 ... { using co-occurrence matrix computation }
- G06T 7/405 ... { using random Fields }
- G06T 7/406 ... { using fractals }
- G06T 7/407 .. { based on structural texture description, i.e. primitives and placement rules }
- G06T 7/408 .. { Color analysis }
  
- G06T 7/60 . Analysis of geometric attributes, e.g. area, center of gravity or perimeter, from an image
- G06T 7/602 .. { Area, perimeter, diameter or volume }

- G06T 7/604 . . { Convexity or concavity }
- G06T 7/606 . . { Center of gravity or moments ( moments specific for pattern recognition, e.g. Zernike moments [G06K 9/525](#) ) }
- G06T 7/608 . . { Symmetry }
  
- G06T 9/00** **Image coding, e.g. from bit-mapped to non bit-mapped ( { [H04N 1/00](#) , [H04N 19/00](#) take precedence; } compression in general [H03M](#) ; compression for image communication [H04N](#) )**
  
- G06T 9/001 . { Model-based coding, e.g. wire frame ( see provisionally also [G06T 9/00](#) ) }
- G06T 9/002 . { using neural networks }
- G06T 9/004 . { Predictors, e.g. intraframe, interframe coding ( see provisionally also [G06T 9/00](#) ) }
- G06T 9/005 . { Statistical coding, e.g. Huffman, run length coding ( see provisionally also [G06T 9/00](#) ) }
- G06T 9/007 . { Transform coding, e.g. discrete cosine transform ( see provisionally also [G06T 9/00](#) ) }
- G06T 9/008 . { Vector quantisation ( see provisionally also [G06T 9/00](#) ) }
- G06T 9/20 . Contour coding, e.g. using detection of edges
- G06T 9/40 . Tree coding, e.g. quadtree, octree ( see provisionally also [G06T 9/00](#) )
  
- G06T 11/00** **2D [Two Dimensional] image generation**
  
- G06T 11/001 . { Texturing; Colouring; Generation of texture or colour }
- G06T 11/003 . { Reconstruction from projections, e.g. tomography }
  
- WARNING**  
As from 06.2011 documents of this group are being continuously reclassified to its subgroups
  
- G06T 11/005 . . { Specific pre-processing for tomographic reconstruction, e.g. calibration, source positioning, rebinning, scatter correction, retrospective gating }
  
- WARNING**  
Not complete pending the completion of a reclassification; see also G11/00T
  
- G06T 11/006 . . { Inverse problem, transformation from projection-space into object-space, e.g. transform methods, back-projection, algebraic methods }
  
- WARNING**  
Not complete pending the completion of a reclassification; see also [G06T 11/00](#) T



- G06T 11/008      ..      { Specific post-processing after tomographic reconstruction, e.g. voxelisation, metal artifact correction }
- WARNING**
- Not complete pending the completion of a reclassification; see also [G06T 11/00 T](#)

- G06T 11/20      .      Drawing from basic elements, e.g. lines or circles

- G06T 11/203      ..      { Drawing of straight lines or curves }

- G06T 11/206      ..      { Drawing of charts or graphs }

- G06T 11/40      .      Filling a planar surface by adding surface attributes, e.g. colour or texture

- G06T 11/60      .      Editing figures and text ; Combining figures or text

- G06T 11/80      .      Creating or modifying a manually drawn or painted image using a manual input device, e.g. mouse, light pen, direction keys on keyboard

## **G06T 13/00      Animation**

- G06T 13/20      .      3D [Three Dimensional] animation

- G06T 13/205      ..      { driven by audio data }

- G06T 13/40      ..      of characters, e.g. humans, animals or virtual beings

- G06T 13/60      ..      of natural phenomena, e.g. rain, snow, water or plants

- G06T 13/80      .      2D [Two Dimensional] animation, e.g. using sprites

## **G06T 15/00      3D [Three Dimensional] image rendering**

- G06T 15/005      .      { General purpose rendering architectures }

- G06T 15/02      .      Non-photorealistic rendering

- G06T 15/04      .      Texture mapping

- G06T 15/06      .      Ray-tracing

- G06T 15/08      .      Volume rendering

- G06T 15/10      .      Geometric effects

- G06T 15/20      ..      Perspective computation

- G06T 15/205      ...      { Image-based rendering }

### **WARNING**

This group is not complete pending a reorganisation. See also [G06T 15/00](#)

- G06T 15/30      ..      Clipping

- G06T 15/40      ..      Hidden part removal

G06T 15/405 . . . { using Z-buffer }

G06T 15/50 . Lighting effects

G06T 15/503 . . { Blending, e.g. for anti-aliasing }

G06T 15/506 . . { Illumination models }

G06T 15/55 . . Radiosity

G06T 15/60 . . Shadow generation

G06T 15/80 . . Shading

G06T 15/83 . . . Phong shading

G06T 15/87 . . . Gouraud shading

## **G06T 17/00 Three dimensional [3D] modelling, e.g. data description of 3D objects**

G06T 17/005 . { Tree description, e.g. octree, quadtree }

G06T 17/05 . Geographic models

G06T 17/10 . Constructive solid geometry (CSG) using solid primitives, e.g. cylinders, cubes

G06T 17/20 . Finite element generation, e.g. wire-frame surface description, { tessellation }

G06T 17/205 . . { Re-meshing }

G06T 17/30 . Polynomial surface description

## **G06T 19/00 Manipulating 3D models or images for computer graphics**

### **WARNING**

As from August 1, 2011, documents relating to subject matter covered by subgroups [G06T 19/00 N](#), [G06T 19/006](#) are continuously reclassified to said subgroups

G06T 19/003 . { Navigation within 3D models or images }

### **WARNING**

This group is not complete pending reclassification; see also group [G06T 19/00](#)

G06T 19/006 . { Mixed reality ( object pose determination, tracking or camera calibration for mixed reality [G06T 7/00](#) ) }

### **WARNING**

This group is not complete pending reclassification; see also group [G06T 19/00](#)

G06T 19/20 . Editing of 3D images, e.g. changing shapes or colours, aligning objects or positioning parts

## **G06T 2200/00 Indexing scheme for image data processing or generation, in general**

- G06T 2200/04 . involving 3D image data
- G06T 2200/08 . involving all processing steps from image acquisition to 3D model generation
- G06T 2200/12 . involving antialiasing
- G06T 2200/16 . involving adaptation to the client's capabilities
- G06T 2200/21 . involving computational photography
- G06T 2200/24 . involving graphical user interfaces [GUIs]
- G06T 2200/28 . involving image processing hardware
- G06T 2200/32 . involving image mosaicing
- G06T 2200/36 . Review paper ; Tutorial ; Survey

#### **G06T 2201/00      General purpose image data processing**

- G06T 2201/005 . Image watermarking
- G06T 2201/0051 . . Embedding of the watermark in the spatial domain
- G06T 2201/0052 . . Embedding of the watermark in the frequency domain
- G06T 2201/0053 . . Embedding of the watermark in the coding stream, possibly without decoding ; Embedding of the watermark in the compressed domain
- G06T 2201/0061 . . Embedding of the watermark in each block of the image, e.g. segmented watermarking
- G06T 2201/0062 . . Embedding of the watermark in text images, e.g. watermarking text documents using letter skew, letter distance or row distance
- G06T 2201/0063 . . in relation to collusion attacks, e.g. collusion attack resistant
- G06T 2201/0064 . . for copy protection or copy management, e.g. CGMS, copy only once, one-time copy
- G06T 2201/0065 . . Extraction of an embedded watermark ; Reliable detection
- G06T 2201/0081 . . whereby both original and watermarked images are required at decoder, e.g. destination-based, non-blind, non-oblivious
- G06T 2201/0083 . . whereby only watermarked image required at decoder, e.g. source-based, blind, oblivious
- G06T 2201/0201 . . whereby only tamper or origin are detected and no embedding takes place
- G06T 2201/0202 . . whereby the quality of watermarked images is measured ; Measuring quality or performance of watermarking methods ; Balancing between quality and robustness
- G06T 2201/0203 . . whereby the image with embedded watermark is reverted to the original condition before embedding, e.g. lossless, distortion-free or invertible watermarking
- G06T 2201/0601 . . whereby calibration information is embedded in the watermark, e.g. a grid, a scale, a list of transformations

#### **G06T 2207/00      Indexing scheme for image analysis or image enhancement**

- G06T 2207/10 . Image acquisition modality

G06T 2207/10004	..	Still image ; Photographic image
G06T 2207/10008	...	from scanner, fax or copier
G06T 2207/10012	...	Stereo images
G06T 2207/10016	..	Video ; Image sequence
G06T 2207/10021	...	Stereoscopic video ; Stereoscopic image sequence
G06T 2207/10024	..	Color image
G06T 2207/10028	..	Range image ; Depth image ; 3D point clouds
G06T 2207/10032	..	Satellite or aerial image ; Remote sensing
G06T 2207/10036	...	Multispectral image ; Hyperspectral image
G06T 2207/10041	...	Panchromatic image
G06T 2207/10044	...	Radar image
G06T 2207/10048	..	Infrared image
G06T 2207/10052	..	Images from lightfield camera
G06T 2207/10056	..	Microscopic image
G06T 2207/10061	...	from scanning electron microscope
G06T 2207/10064	..	Fluorescence image
G06T 2207/10068	..	Endoscopic image
G06T 2207/10072	..	Tomographic images
G06T 2207/10076	...	4D tomography ; Time-sequential 3D tomography
G06T 2207/10081	...	Computed x-ray tomography [CT]
G06T 2207/10084	...	Hybrid tomography ; Concurrent acquisition with multiple different tomographic modalities
G06T 2207/10088	...	Magnetic resonance imaging [MRI]
G06T 2207/10092	....	Diffusion tensor magnetic resonance imaging [DTI]
G06T 2207/10096	....	Dynamic contrast-enhanced magnetic resonance imaging [DCE-MRI]
G06T 2207/10101	...	Optical tomography ; Optical coherence tomography [OCT]
G06T 2207/10104	...	Positron emission tomography [PET]
G06T 2207/10108	...	Single photon emission computed tomography [SPECT]
G06T 2207/10112	...	Digital tomosynthesis [DTS]
G06T 2207/10116	..	X-ray image
G06T 2207/10121	...	Fluoroscopy
G06T 2207/10124	...	Digitally reconstructed radiograph [DRR]
G06T 2207/10128	...	Scintigraphy
G06T 2207/10132	..	Ultrasound image
G06T 2207/10136	...	3D ultrasound image
G06T 2207/10141	..	Special mode during image acquisition
G06T 2207/10144	...	Varying exposure
G06T 2207/10148	...	Varying focus
G06T 2207/10152	...	Varying illumination
G06T 2207/20	.	Special algorithmic details
G06T 2207/20004	..	Adaptive image processing
G06T 2207/20008	...	Globally adaptive

G06T 2207/20012	...	Locally adaptive
G06T 2207/20016	..	Hierarchical, coarse-to-fine, multiscale or multiresolution image processing ; Pyramid transform
G06T 2207/20021	..	Dividing image into blocks, subimages or windows
G06T 2207/20024	..	Filtering details
G06T 2207/20028	...	Bilateral filtering
G06T 2207/20032	...	Median filtering
G06T 2207/20036	..	Morphological image processing
G06T 2207/20041	...	Distance transform
G06T 2207/20044	...	Skeletonization ; Medial axis transform
G06T 2207/20048	..	Transform domain processing
G06T 2207/20052	...	Discrete cosine transform [DCT]
G06T 2207/20056	...	Discrete and fast Fourier transform, [DFT, FFT]
G06T 2207/20061	...	Hough transform
G06T 2207/20064	...	Wavelet transform [DWT]
G06T 2207/20068	..	Projection on vertical or horizontal image axis
G06T 2207/20072	..	Graph-based image processing ;
G06T 2207/20076	..	Probabilistic image processing
G06T 2207/20081	..	Training ; Learning
G06T 2207/20084	..	Artificial neural networks [ANN]
G06T 2207/20088	..	Trinocular vision calculations ; trifocal tensor
G06T 2207/20092	..	Interactive image processing based on input by user
G06T 2207/20096	...	Interactive definition of curve of interest
G06T 2207/20101	...	Interactive definition of point of interest, landmark or seed
G06T 2207/20104	...	Interactive definition of region of interest [ROI]
G06T 2207/20108	...	Interactive selection of 2D slice in a 3D data set
G06T 2207/20112	..	Image segmentation details
G06T 2207/20116	...	Active contour ; Active surface ; Snakes
G06T 2207/20121	...	Active appearance model [AAM]
G06T 2207/20124	...	Active shape model [ASM]
G06T 2207/20128	...	Atlas-based segmentation
G06T 2207/20132	...	Image cropping
G06T 2207/20136	...	Edge growing ; Edge linking
G06T 2207/20141	...	Region-growing ; Region merging ; Connected component labeling
G06T 2207/20144	...	Foreground-background segmentation
G06T 2207/20148	...	Thresholding
G06T 2207/20152	...	Watershed segmentation
G06T 2207/20156	...	Automatic seed setting
G06T 2207/20161	...	Level set
G06T 2207/20164	...	Salient point detection ; Corner detection
G06T 2207/20168	...	Radial search
G06T 2207/20172	..	Image enhancement details

G06T 2207/20182	...	Noise reduction or smoothing in the temporal domain ; Spatio-temporal filtering
G06T 2207/20192	...	Edge enhancement ; Edge preservation
G06T 2207/20201	...	Motion blur correction
G06T 2207/20204	...	Removing film grain ; Adding simulated film grain
G06T 2207/20208	...	High dynamic range [HDR] image processing
G06T 2207/20212	..	Image combination
G06T 2207/20216	...	Image averaging
G06T 2207/20221	...	Image fusion ; Image merging
G06T 2207/20224	...	Image subtraction
G06T 2207/20228	..	Disparity calculation for image-based rendering
G06T 2207/30	.	Subject of image ; Context of image processing
G06T 2207/30004	..	Biomedical image processing
G06T 2207/30008	...	Bone
G06T 2207/30012	....	Spine ; Backbone
G06T 2207/30016	...	Brain
G06T 2207/30021	...	Catheter ; Guide wire
G06T 2207/30024	...	Cell structures in vitro ; Tissue sections in vitro
G06T 2207/30028	...	Colon ; Small intestine
G06T 2207/30032	....	Colon polyp
G06T 2207/30036	...	Dental ; Teeth
G06T 2207/30041	...	Eye ; Retina ; Ophthalmic
G06T 2207/30044	...	Fetus ; Embryo
G06T 2207/30048	...	Heart ; Cardiac
G06T 2207/30052	...	Implant ; Prosthesis
G06T 2207/30056	...	Liver ; Hepatic
G06T 2207/30061	...	Lung
G06T 2207/30064	....	Lung nodule
G06T 2207/30068	...	Mammography ; Breast
G06T 2207/30072	...	Microarray ; Biochip, DNA array ; Well plate
G06T 2207/30076	...	Plethysmography
G06T 2207/30081	...	Prostate
G06T 2207/30084	...	Kidney ; Renal
G06T 2207/30088	...	Skin ; Dermal
G06T 2207/30092	...	Stomach ; Gastric
G06T 2207/30096	...	Tumor ; Lesion
G06T 2207/30101	...	Blood vessel ; Artery ; Vein ; Vascular
G06T 2207/30104	....	Vascular flow ; Blood flow ; Perfusion
G06T 2207/30108	..	Industrial image inspection
G06T 2207/30112	...	Baggage ; Luggage ; Suitcase
G06T 2207/30116	...	Casting
G06T 2207/30121	...	CRT, LCD or plasma display

G06T 2207/30124	...	Fabrics ; Textile ; Paper
G06T 2207/30128	...	Food products
G06T 2207/30132	...	Masonry ; Concrete
G06T 2207/30136	...	Metal
G06T 2207/30141	...	Printed circuit board [PCB]
G06T 2207/30144	...	Printing quality
G06T 2207/30148	...	Semiconductor ; IC ; Wafer
G06T 2207/30152	...	Solder
G06T 2207/30156	...	Vehicle coating
G06T 2207/30161	...	Wood ; Lumber
G06T 2207/30164	...	Workpiece ; Machine component
G06T 2207/30168	..	Image quality inspection
G06T 2207/30172	..	Centreline of tubular or elongated structure
G06T 2207/30176	..	Document
G06T 2207/30181	..	Earth observation
G06T 2207/30184	...	Infrastructure
G06T 2207/30188	...	Vegetation ; Agriculture
G06T 2207/30192	...	Weather ; Meteorology
G06T 2207/30196	..	Human being ; Person
G06T 2207/30201	...	Face
G06T 2207/30204	..	Marker
G06T 2207/30208	...	Marker matrix
G06T 2207/30212	..	Military
G06T 2207/30216	..	Redeye defect
G06T 2207/30221	..	Sports video ; Sports image
G06T 2207/30224	...	Ball ; Puck
G06T 2207/30228	...	Playing field
G06T 2207/30232	..	Surveillance
G06T 2207/30236	..	Traffic on road, railway or crossing
G06T 2207/30241	..	Trajectory
G06T 2207/30242	..	Counting objects in image
G06T 2207/30244	..	Camera pose
G06T 2207/30248	..	Vehicle exterior or interior
G06T 2207/30252	...	Vehicle exterior ; Vicinity of vehicle
G06T 2207/30256	....	Lane ; Road marking
G06T 2207/30261	....	Obstacle
G06T 2207/30264	....	Parking
G06T 2207/30268	...	Vehicle interior
<b>G06T 2210/00</b>		<b>Indexing scheme for image generation or computer graphics</b>
G06T 2210/04	.	Architectural design, interior design

G06T 2210/08	. Bandwidth reduction
G06T 2210/12	. Bounding box
G06T 2210/16	. Cloth
G06T 2210/21	. Collision detection, intersection
G06T 2210/22	. Cropping
G06T 2210/24	. Fluid dynamics
G06T 2210/28	. Force feedback
G06T 2210/32	. Image data format
G06T 2210/36	. Level of detail
G06T 2210/41	. Medical
G06T 2210/44	. Morphing
G06T 2210/52	. Parallel processing
G06T 2210/56	. Particle system, point based geometry or rendering
G06T 2210/61	. Scene description
G06T 2210/62	. Semi-transparency
G06T 2210/64	. Weathering

## **G06T 2211/00      Image generation**

G06T 2211/40	. Computed tomography
G06T 2211/404	.. Angiography
G06T 2211/408	.. Dual energy
G06T 2211/412	.. Dynamic
G06T 2211/416	.. Exact reconstruction
G06T 2211/421	.. Filtered back projection [FBP]
G06T 2211/424	.. Iterative
G06T 2211/428	.. Real-time
G06T 2211/432	.. Truncation
G06T 2211/436	.. Limited angle

## **G06T 2213/00      Indexing scheme for animation**

G06T 2213/04	. Animation description language
--------------	----------------------------------



G06T 2213/08 . Animation software package

G06T 2213/12 . Rule based animation

**G06T 2215/00 Indexing scheme for image rendering**

G06T 2215/06 . Curved planar reformation of 3D line structures

G06T 2215/08 . Gnomonic or central projection

G06T 2215/12 . Shadow map, environment map

G06T 2215/16 . Using real world measurements to influence rendering

**G06T 2219/00 Indexing scheme for manipulating 3D models or images for computer graphics**

G06T 2219/004 . Annotating, labelling

G06T 2219/008 . Cut plane or projection plane definition

G06T 2219/012 . Dimensioning, tolerancing

G06T 2219/016 . Exploded view

G06T 2219/021 . Flattening

G06T 2219/024 . Multi-user, collaborative environment

G06T 2219/028 . Multiple view windows (top-side-front-sagittal-orthogonal)

G06T 2219/20 . Indexing scheme for editing of 3D models

G06T 2219/2004 . . Aligning objects, relative positioning of parts

G06T 2219/2008 . . Assembling, disassembling

G06T 2219/2012 . . Colour editing, changing, or manipulating ; Use of colour codes

G06T 2219/2016 . . Rotation, translation, scaling

G06T 2219/2021 . . Shape modification

G06T 2219/2024 . . Style variation