

# CPC COOPERATIVE PATENT CLASSIFICATION

## G PHYSICS (NOTES omitted)

### INSTRUMENTS

## G06 COMPUTING; CALCULATING OR COUNTING (NOTES omitted)

## G06T IMAGE DATA PROCESSING OR GENERATION, IN GENERAL

### WARNINGS

- The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:  
[G06T 1/40](#) covered by [G06T 1/20](#)
- In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

### 1/00 General purpose image data processing

- 1/0007 . {Image acquisition}
- 1/0014 . {Image feed-back for automatic industrial control, e.g. robot with camera ([robots B25J 19/023](#))}
- 1/0021 . {Image watermarking}
- 1/0028 . . {Adaptive watermarking, e.g. Human Visual System [HVS]-based watermarking}
- 1/0035 . . . {Output size adaptive watermarking}
- 1/0042 . . {Fragile watermarking, e.g. so as to detect tampering}
- 1/005 . . {Robust watermarking, e.g. average attack or collusion attack resistant}
- 1/0057 . . . {Compression invariant watermarking}
- 1/0064 . . . {Geometric transform invariant watermarking, e.g. affine transform invariant}
- 1/0071 . . . {using multiple or alternating watermarks}
- 1/0078 . . . {using multiple thresholds}
- 1/0085 . . {Time domain based watermarking, e.g. watermarks spread over several images}
- 1/0092 . . {Payload characteristic determination in a watermarking scheme, e.g. number of bits to be embedded}
- 1/20 . Processor architectures; Processor configuration, e.g. pipelining
- 1/60 . Memory management

### 3/00 Geometric image transformation in the plane of the image

- 3/0006 . {Affine transformations ([G06T 3/4038](#), [G06T 3/0068](#) take precedence)}
- 3/0012 . {Context preserving transformation, e.g. by using an importance map ([G06T 3/0062](#) takes precedence)}
- 3/0018 . . {Fisheye, wide-angle transformation}
- 3/0025 . . {Detail-in-context presentation ([G06T 3/0018](#) takes precedence)}
- 3/0031 . {for topological mapping of a higher dimensional structure on a lower dimensional surface}
- 3/0037 . . {Reshaping or unfolding a 3D tree structure onto a 2D plane}
- 3/0043 . . {Surface of revolution to planar image transformation}

- 3/005 . {for projecting an image on a non-planar surface, e.g. a geodetic screen}
- 3/0056 . {the transformation method being selected according to the characteristics of the input image}
- 3/0062 . {Panospheric to cylindrical image transformation}
- 3/0068 . {for image registration, e.g. elastic snapping}
- 3/0075 . . {using affine transformations}
- 3/0081 . . {by elastic snapping}
- 3/0087 . {Spatio-temporal transformations, e.g. video cubism}
- 3/0093 . {for image warping, i.e. transforming by individually repositioning each pixel}
- 3/20 . Linear translation of a whole image or part thereof, e.g. panning
- 3/40 . Scaling the whole image or part thereof
- 3/4007 . . {Interpolation-based scaling, e.g. bilinear interpolation ([G06T 3/4015](#), [G06T 3/403](#) take precedence)}
- 3/4015 . . {Demosaiicing, e.g. colour filter array [CFA], Bayer pattern}
- 3/4023 . . {Decimation- or insertion-based scaling, e.g. pixel or line decimation}
- 3/403 . . {Edge-driven scaling}
- 3/4038 . . {for image mosaicing, i.e. plane images composed of plane sub-images}
- 3/4046 . . {using neural networks}
- 3/4053 . . {Super resolution, i.e. output image resolution higher than sensor resolution}
- 3/4061 . . . {by injecting details from a different spectral band}
- 3/4069 . . . {by subpixel displacement}
- 3/4076 . . . {by iteratively correcting the provisional high resolution image using the original low-resolution image}
- 3/4084 . . {Transform-based scaling, e.g. FFT domain scaling}
- 3/4092 . . {Image resolution transcoding, e.g. client/server architecture}
- 3/60 . Rotation of a whole image or part thereof
- 3/602 . . {Block rotation, e.g. by recursive reversing or rotating}

3/604	. . {using a CORDIC [COordinate Rotation Digital Compute] device}		is also made in relevant groups of <a href="#">G06T 7/136</a> - <a href="#">G06T 7/194</a> .
3/606	. . {Rotation by memory addressing or mapping}	7/11	. . Region-based segmentation
3/608	. . {Skewing or deskewing, e.g. by two-pass or three-pass rotation}	7/12	. . Edge-based segmentation
<b>5/00</b>	<b>Image enhancement or restoration</b>	7/13	. . Edge detection
5/001	. {Image restoration}	7/136	. . involving thresholding
5/002	. . {Denoising; Smoothing (noise processing or correction adapted to be used in an image pickup device containing an electronic image sensor <a href="#">H04N 23/81</a> , <a href="#">H04N 25/60</a> - <a href="#">H04N 25/67</a> )}	7/143	. . involving probabilistic approaches, e.g. Markov random field [MRF] modelling
5/003	. . {Deblurring; Sharpening (vibration or motion blur correction for cameras comprising an electronic image sensor <a href="#">H04N 23/682</a> )}	7/149	. . involving deformable models, e.g. active contour models
5/004	. . . {Unsharp masking}	7/155	. . involving morphological operators
5/005	. . {Retouching; Inpainting; Scratch removal (detecting, correction, reducing or removing defects, e.g. non-responsive pixels of solid state image sensors <a href="#">H04N 25/68</a> , scratch removal for cinematographic films scanned by electronic image sensor <a href="#">H04N 5/253</a> )}	7/162	. . involving graph-based methods
5/006	. {Geometric correction (correction of chromatic aberrations adapted to be used in an image pickup device containing an electronic image sensor <a href="#">H04N 23/10</a> ; detecting, correcting, reducing or removing artefacts resulting only from the lens unit, e.g. flare, shading, vignetting or "cos4" <a href="#">H04N 25/61</a> )}	7/168	. . involving transform domain methods
5/007	. {Dynamic range modification (applied in cameras using an electronic image sensor <a href="#">H04N 23/741</a> , <a href="#">H04N 23/743</a> )}	7/174	. . involving the use of two or more images
5/008	. . {Local, e.g. shadow enhancement}	7/181	. . involving edge growing; involving edge linking
5/009	. . {Global, i.e. based on properties of the image as a whole (applied in cameras using an electronic image sensor <a href="#">H04N 23/80</a> , <a href="#">H04N 23/70</a> )}	7/187	. . involving region growing; involving region merging; involving connected component labelling
5/10	. by non-spatial domain filtering {(applied in cameras using an electronic image sensor <a href="#">H04N 23/80</a> , <a href="#">H04N 23/70</a> , <a href="#">H04N 5/253</a> , <a href="#">H04N 25/68</a> )}	7/194	. . involving foreground-background segmentation
5/20	. by the use of local operators {(applied in cameras using an electronic image sensor <a href="#">H04N 23/80</a> , <a href="#">H04N 23/70</a> , <a href="#">H04N 5/253</a> , <a href="#">H04N 25/68</a> )}	7/20	. Analysis of motion ( <a href="#">motion estimation for coding, decoding, compressing or decompressing digital video signals</a> <a href="#">H04N 19/43</a> , <a href="#">H04N 19/51</a> )
5/30	. . Erosion or dilatation, e.g. thinning	7/207	. . for motion estimation over a hierarchy of resolutions ( <a href="#">multi-resolution motion estimation or hierarchical motion estimation for coding, decoding, compressing or decompressing digital video signals</a> <a href="#">H04N 19/53</a> )
5/40	. by the use of histogram techniques {(applied in cameras using an electronic image sensor <a href="#">H04N 23/80</a> , <a href="#">H04N 23/70</a> )}	7/215	. . Motion-based segmentation
5/50	. by the use of more than one image, e.g. averaging, subtraction {(applied in cameras using an electronic image sensor <a href="#">H04N 23/80</a> , <a href="#">H04N 23/70</a> )}	7/223	. . using block-matching
<b>7/00</b>	<b>Image analysis</b>	7/231	. . . using full search
7/0002	. {Inspection of images, e.g. flaw detection}	7/238	. . . using non-full search, e.g. three-step search
7/0004	. . {Industrial image inspection}	7/246	. . using feature-based methods, e.g. the tracking of corners or segments
7/0006	. . . {using a design-rule based approach}	7/248	. . . {involving reference images or patches}
7/0008	. . . {checking presence/absence}	7/251	. . . {involving models}
7/001	. . . {using an image reference approach}	7/254	. . involving subtraction of images
7/0012	. . {Biomedical image inspection}	7/262	. . using transform domain methods, e.g. Fourier domain methods
7/0014	. . . {using an image reference approach}	7/269	. . using gradient-based methods
7/0016	. . . . {involving temporal comparison}	7/277	. . involving stochastic approaches, e.g. using Kalman filters
7/10	. Segmentation; Edge detection ( <a href="#">motion-based segmentation</a> <a href="#">G06T 7/215</a> )	7/285	. . using a sequence of stereo image pairs
<b>NOTE</b>		7/292	. . Multi-camera tracking
When classifying in groups <a href="#">G06T 7/11</a> - <a href="#">G06T 7/13</a> , classification		7/30	. Determination of transform parameters for the alignment of images, i.e. image registration
		7/32	. . using correlation-based methods
		7/33	. . using feature-based methods
		7/337	. . . {involving reference images or patches}
		7/344	. . . {involving models}
		7/35	. . using statistical methods
		7/37	. . using transform domain methods
		7/38	. . Registration of image sequences
		7/40	. Analysis of texture ( <a href="#">depth or shape recovery from texture</a> <a href="#">G06T 7/529</a> )
		7/41	. . based on statistical description of texture
		7/42	. . . using transform domain methods
		7/44	. . . using image operators, e.g. filters, edge density metrics or local histograms
		7/45	. . . using co-occurrence matrix computation
		7/46	. . . using random fields
		7/48	. . . using fractals

7/49	<ul style="list-style-type: none"> <li>based on structural texture description, e.g. using primitives or placement rules</li> </ul>	11/006	<ul style="list-style-type: none"> <li>{Inverse problem, transformation from projection-space into object-space, e.g. transform methods, back-projection, algebraic methods}</li> </ul>
7/50	<ul style="list-style-type: none"> <li>Depth or shape recovery</li> </ul>	11/008	<ul style="list-style-type: none"> <li>{Specific post-processing after tomographic reconstruction, e.g. voxelisation, metal artifact correction}</li> </ul>
7/507	<ul style="list-style-type: none"> <li>from shading (<a href="#">G06T 7/586 takes precedence</a>)</li> </ul>	11/20	<ul style="list-style-type: none"> <li>Drawing from basic elements, e.g. lines or circles</li> </ul>
7/514	<ul style="list-style-type: none"> <li>from specularities</li> </ul>	11/203	<ul style="list-style-type: none"> <li>{Drawing of straight lines or curves}</li> </ul>
7/521	<ul style="list-style-type: none"> <li>from laser ranging, e.g. using interferometry; from the projection of structured light</li> </ul>	11/206	<ul style="list-style-type: none"> <li>{Drawing of charts or graphs}</li> </ul>
7/529	<ul style="list-style-type: none"> <li>from texture</li> </ul>	11/40	<ul style="list-style-type: none"> <li>Filling a planar surface by adding surface attributes, e.g. colour or texture</li> </ul>
7/536	<ul style="list-style-type: none"> <li>from perspective effects, e.g. by using vanishing points</li> </ul>	11/60	<ul style="list-style-type: none"> <li>Editing figures and text; Combining figures or text</li> </ul>
7/543	<ul style="list-style-type: none"> <li>from line drawings</li> </ul>	11/80	<ul style="list-style-type: none"> <li>Creating or modifying a manually drawn or painted image using a manual input device, e.g. mouse, light pen, direction keys on keyboard</li> </ul>
7/55	<ul style="list-style-type: none"> <li>from multiple images</li> </ul>	<b>13/00</b>	<b>Animation</b>
7/557	<ul style="list-style-type: none"> <li>from light fields, e.g. from plenoptic cameras</li> </ul>	13/20	<ul style="list-style-type: none"> <li>3D [Three Dimensional] animation</li> </ul>
7/564	<ul style="list-style-type: none"> <li>from contours</li> </ul>	13/205	<ul style="list-style-type: none"> <li>{driven by audio data}</li> </ul>
7/571	<ul style="list-style-type: none"> <li>from focus</li> </ul>	13/40	<ul style="list-style-type: none"> <li>of characters, e.g. humans, animals or virtual beings</li> </ul>
7/579	<ul style="list-style-type: none"> <li>from motion</li> </ul>	13/60	<ul style="list-style-type: none"> <li>of natural phenomena, e.g. rain, snow, water or plants</li> </ul>
7/586	<ul style="list-style-type: none"> <li>from multiple light sources, e.g. photometric stereo</li> </ul>	13/80	<ul style="list-style-type: none"> <li>2D [Two Dimensional] animation, e.g. using sprites</li> </ul>
7/593	<ul style="list-style-type: none"> <li>from stereo images</li> </ul>	<b>15/00</b>	<b>3D [Three Dimensional] image rendering</b>
7/596	<ul style="list-style-type: none"> <li>{from three or more stereo images}</li> </ul>	15/005	<ul style="list-style-type: none"> <li>{General purpose rendering architectures}</li> </ul>
7/60	<ul style="list-style-type: none"> <li>Analysis of geometric attributes</li> </ul>	15/02	<ul style="list-style-type: none"> <li>Non-photorealistic rendering</li> </ul>
7/62	<ul style="list-style-type: none"> <li>of area, perimeter, diameter or volume</li> </ul>	15/04	<ul style="list-style-type: none"> <li>Texture mapping</li> </ul>
7/64	<ul style="list-style-type: none"> <li>of convexity or concavity</li> </ul>	15/06	<ul style="list-style-type: none"> <li>Ray-tracing</li> </ul>
7/66	<ul style="list-style-type: none"> <li>of image moments or centre of gravity</li> </ul>	15/08	<ul style="list-style-type: none"> <li>Volume rendering</li> </ul>
7/68	<ul style="list-style-type: none"> <li>of symmetry</li> </ul>	15/10	<ul style="list-style-type: none"> <li>Geometric effects</li> </ul>
7/70	<ul style="list-style-type: none"> <li>Determining position or orientation of objects or cameras (<a href="#">camera calibration G06T 7/80</a>)</li> </ul>	15/20	<ul style="list-style-type: none"> <li>Perspective computation</li> </ul>
7/73	<ul style="list-style-type: none"> <li>using feature-based methods</li> </ul>	15/205	<ul style="list-style-type: none"> <li>{Image-based rendering}</li> </ul>
7/74	<ul style="list-style-type: none"> <li>{involving reference images or patches}</li> </ul>	15/30	<ul style="list-style-type: none"> <li>Clipping</li> </ul>
7/75	<ul style="list-style-type: none"> <li>{involving models}</li> </ul>	15/40	<ul style="list-style-type: none"> <li>Hidden part removal</li> </ul>
7/77	<ul style="list-style-type: none"> <li>using statistical methods</li> </ul>	15/405	<ul style="list-style-type: none"> <li>{using Z-buffer}</li> </ul>
7/80	<ul style="list-style-type: none"> <li>Analysis of captured images to determine intrinsic or extrinsic camera parameters, i.e. camera calibration</li> </ul>	15/50	<ul style="list-style-type: none"> <li>Lighting effects</li> </ul>
7/85	<ul style="list-style-type: none"> <li>{Stereo camera calibration}</li> </ul>	15/503	<ul style="list-style-type: none"> <li>{Blending, e.g. for anti-aliasing}</li> </ul>
7/90	<ul style="list-style-type: none"> <li>Determination of colour characteristics</li> </ul>	15/506	<ul style="list-style-type: none"> <li>{Illumination models}</li> </ul>
7/97	<ul style="list-style-type: none"> <li>{Determining parameters from multiple pictures (depth or shape recovery from multiple images <a href="#">G06T 7/55</a>; stereo camera calibration <a href="#">G06T 7/85</a>)}</li> </ul>	15/55	<ul style="list-style-type: none"> <li>Radiosity</li> </ul>
<b>9/00</b>	<b>Image coding (bandwidth or redundancy reduction for static pictures <a href="#">H04N 1/41</a>; coding or decoding of static colour picture signals <a href="#">H04N 1/64</a>; methods or arrangements for coding, decoding, compressing or decompressing digital video signals <a href="#">H04N 19/00</a>)</b>	15/60	<ul style="list-style-type: none"> <li>Shadow generation</li> </ul>
9/001	<ul style="list-style-type: none"> <li>{Model-based coding, e.g. wire frame}</li> </ul>	15/80	<ul style="list-style-type: none"> <li>Shading</li> </ul>
9/002	<ul style="list-style-type: none"> <li>{using neural networks}</li> </ul>	15/83	<ul style="list-style-type: none"> <li>Phong shading</li> </ul>
9/004	<ul style="list-style-type: none"> <li>{Predictors, e.g. intraframe, interframe coding}</li> </ul>	15/87	<ul style="list-style-type: none"> <li>Gouraud shading</li> </ul>
9/005	<ul style="list-style-type: none"> <li>{Statistical coding, e.g. Huffman, run length coding}</li> </ul>	<b>17/00</b>	<b>Three dimensional [3D] modelling, e.g. data description of 3D objects</b>
9/007	<ul style="list-style-type: none"> <li>{Transform coding, e.g. discrete cosine transform}</li> </ul>	17/005	<ul style="list-style-type: none"> <li>{Tree description, e.g. octree, quadtree}</li> </ul>
9/008	<ul style="list-style-type: none"> <li>{Vector quantisation}</li> </ul>	17/05	<ul style="list-style-type: none"> <li>Geographic models</li> </ul>
9/20	<ul style="list-style-type: none"> <li>Contour coding, e.g. using detection of edges</li> </ul>	17/10	<ul style="list-style-type: none"> <li>Constructive solid geometry [CSG] using solid primitives, e.g. cylinders, cubes</li> </ul>
9/40	<ul style="list-style-type: none"> <li>Tree coding, e.g. quadtree, octree</li> </ul>	17/20	<ul style="list-style-type: none"> <li>Finite element generation, e.g. wire-frame surface description, {tessellation}</li> </ul>
<b>11/00</b>	<b>2D [Two Dimensional] image generation</b>	17/205	<ul style="list-style-type: none"> <li>{Re-meshing}</li> </ul>
11/001	<ul style="list-style-type: none"> <li>{Texturing; Colouring; Generation of texture or colour (<a href="#">inpainting G06T 5/005</a>)}</li> </ul>	17/30	<ul style="list-style-type: none"> <li>Polynomial surface description</li> </ul>
11/003	<ul style="list-style-type: none"> <li>{Reconstruction from projections, e.g. tomography}</li> </ul>	<b>19/00</b>	<b>Manipulating 3D models or images for computer graphics</b>
11/005	<ul style="list-style-type: none"> <li>{Specific pre-processing for tomographic reconstruction, e.g. calibration, source positioning, rebinning, scatter correction, retrospective gating}</li> </ul>	19/003	<ul style="list-style-type: none"> <li>{Navigation within 3D models or images}</li> </ul>
		19/006	<ul style="list-style-type: none"> <li>{Mixed reality (object pose determination, tracking or camera calibration for mixed reality <a href="#">G06T 7/00</a>)}</li> </ul>
		19/20	<ul style="list-style-type: none"> <li>Editing of 3D images, e.g. changing shapes or colours, aligning objects or positioning parts</li> </ul>

<b>2200/00</b>	<b>Indexing scheme for image data processing or generation, in general</b>	
2200/04	. involving 3D image data	
2200/08	. involving all processing steps from image acquisition to 3D model generation	
2200/12	. involving antialiasing	
2200/16	. involving adaptation to the client's capabilities	
2200/21	. involving computational photography	
2200/24	. involving graphical user interfaces [GUIs]	
2200/28	. involving image processing hardware	
2200/32	. involving image mosaicing	
2200/36	. Review paper; Tutorial; Survey	
<b>2201/00</b>	<b>General purpose image data processing</b>	
2201/005	. Image watermarking	
2201/0051	. . Embedding of the watermark in the spatial domain	
2201/0052	. . Embedding of the watermark in the frequency domain	
2201/0053	. . Embedding of the watermark in the coding stream, possibly without decoding; Embedding of the watermark in the compressed domain	
2201/0061	. . Embedding of the watermark in each block of the image, e.g. segmented watermarking	
2201/0062	. . Embedding of the watermark in text images, e.g. watermarking text documents using letter skew, letter distance or row distance	
2201/0063	. . in relation to collusion attacks, e.g. collusion attack resistant	
2201/0064	. . for copy protection or copy management, e.g. CGMS, copy only once, one-time copy	
2201/0065	. . Extraction of an embedded watermark; Reliable detection	
2201/0081	. . whereby both original and watermarked images are required at decoder, e.g. destination-based, non-blind, non-oblivious	
2201/0083	. . whereby only watermarked image required at decoder, e.g. source-based, blind, oblivious	
2201/0201	. . whereby only tamper or origin are detected and no embedding takes place	
2201/0202	. . whereby the quality of watermarked images is measured; Measuring quality or performance of watermarking methods; Balancing between quality and robustness	
2201/0203	. . whereby the image with embedded watermark is reverted to the original condition before embedding, e.g. lossless, distortion-free or invertible watermarking	
2201/0601	. . whereby calibration information is embedded in the watermark, e.g. a grid, a scale, a list of transformations	
<b>2207/00</b>	<b>Indexing scheme for image analysis or image enhancement</b>	
2207/10	. Image acquisition modality	
2207/10004	. . Still image; Photographic image	
2207/10008	. . . from scanner, fax or copier	
2207/10012	. . . Stereo images	
2207/10016	. . Video; Image sequence	
2207/10021	. . . Stereoscopic video; Stereoscopic image sequence	
2207/10024	. . Color image	
2207/10028	. . Range image; Depth image; 3D point clouds	
2207/10032	. . Satellite or aerial image; Remote sensing	
2207/10036	. . . Multispectral image; Hyperspectral image	
2207/10041	. . . Panchromatic image	
2207/10044	. . . Radar image	
2207/10048	. . Infrared image	
2207/10052	. . Images from lightfield camera	
2207/10056	. . Microscopic image	
2207/10061	. . . from scanning electron microscope	
2207/10064	. . Fluorescence image	
2207/10068	. . Endoscopic image	
2207/10072	. . Tomographic images	
2207/10076	. . . 4D tomography; Time-sequential 3D tomography	
2207/10081	. . . Computed x-ray tomography [CT]	
2207/10084	. . . Hybrid tomography; Concurrent acquisition with multiple different tomographic modalities	
2207/10088	. . . Magnetic resonance imaging [MRI]	
2207/10092	. . . . Diffusion tensor magnetic resonance imaging [DTI]	
2207/10096	. . . . Dynamic contrast-enhanced magnetic resonance imaging [DCE-MRI]	
2207/10101	. . . Optical tomography; Optical coherence tomography [OCT]	
2207/10104	. . . Positron emission tomography [PET]	
2207/10108	. . . Single photon emission computed tomography [SPECT]	
2207/10112	. . . Digital tomosynthesis [DTS]	
2207/10116	. . X-ray image	
2207/10121	. . . Fluoroscopy	
2207/10124	. . . Digitally reconstructed radiograph [DRR]	
2207/10128	. . . Scintigraphy	
2207/10132	. . Ultrasound image	
2207/10136	. . . 3D ultrasound image	
2207/10141	. . Special mode during image acquisition	
2207/10144	. . . Varying exposure	
2207/10148	. . . Varying focus	
2207/10152	. . . Varying illumination	
2207/20	. Special algorithmic details	
2207/20004	. . Adaptive image processing	
2207/20008	. . . Globally adaptive	
2207/20012	. . . Locally adaptive	
2207/20016	. . Hierarchical, coarse-to-fine, multiscale or multiresolution image processing; Pyramid transform	
2207/20021	. . Dividing image into blocks, subimages or windows	
2207/20024	. . Filtering details	
2207/20028	. . . Bilateral filtering	
2207/20032	. . . Median filtering	
2207/20036	. . Morphological image processing	
2207/20041	. . . Distance transform	
2207/20044	. . . Skeletonization; Medial axis transform	
2207/20048	. . Transform domain processing	
2207/20052	. . . Discrete cosine transform [DCT]	
2207/20056	. . . Discrete and fast Fourier transform, [DFT, FFT]	
2207/20061	. . . Hough transform	
2207/20064	. . . Wavelet transform [DWT]	
2207/20068	. . Projection on vertical or horizontal image axis	
2207/20072	. . Graph-based image processing	
2207/20076	. . Probabilistic image processing	
2207/20081	. . Training; Learning	
2207/20084	. . Artificial neural networks [ANN]	

2207/20088	. . . Trinocular vision calculations; trifocal tensor	2207/30116	. . . Casting
2207/20092	. . Interactive image processing based on input by user	2207/30121	. . . CRT, LCD or plasma display
2207/20096	. . . Interactive definition of curve of interest	2207/30124	. . . Fabrics; Textile; Paper
2207/20101	. . . Interactive definition of point of interest, landmark or seed	2207/30128	. . . Food products
2207/20104	. . . Interactive definition of region of interest [ROI]	2207/30132	. . . Masonry; Concrete
2207/20108	. . . Interactive selection of 2D slice in a 3D data set	2207/30136	. . . Metal
2207/20112	. . Image segmentation details	2207/30141	. . . Printed circuit board [PCB]
2207/20116	. . . Active contour; Active surface; Snakes	2207/30144	. . . Printing quality
2207/20121	. . . Active appearance model [AAM]	2207/30148	. . . Semiconductor; IC; Wafer
2207/20124	. . . Active shape model [ASM]	2207/30152	. . . Solder
2207/20128	. . . Atlas-based segmentation	2207/30156	. . . Vehicle coating
2207/20132	. . . Image cropping	2207/30161	. . . Wood; Lumber
2207/20152	. . . Watershed segmentation	2207/30164	. . . Workpiece; Machine component
2207/20156	. . . Automatic seed setting	2207/30168	. . Image quality inspection
2207/20161	. . . Level set	2207/30172	. . Centreline of tubular or elongated structure
2207/20164	. . . Salient point detection; Corner detection	2207/30176	. . Document
2207/20168	. . . Radial search	2207/30181	. . Earth observation
2207/20172	. . Image enhancement details	2207/30184	. . . Infrastructure
2207/20182	. . . Noise reduction or smoothing in the temporal domain; Spatio-temporal filtering	2207/30188	. . . Vegetation; Agriculture
2207/20192	. . . Edge enhancement; Edge preservation	2207/30192	. . . Weather; Meteorology
2207/20201	. . . Motion blur correction	2207/30196	. . Human being; Person
2207/20204	. . . Removing film grain; Adding simulated film grain	2207/30201	. . . Face
2207/20208	. . . High dynamic range [HDR] image processing	2207/30204	. . Marker
2207/20212	. . Image combination	2207/30208	. . . Marker matrix
2207/20216	. . . Image averaging	2207/30212	. . Military
2207/20221	. . . Image fusion; Image merging	2207/30216	. . Redeye defect
2207/20224	. . . Image subtraction	2207/30221	. . Sports video; Sports image
2207/20228	. . Disparity calculation for image-based rendering	2207/30224	. . . Ball; Puck
2207/30	. Subject of image; Context of image processing	2207/30228	. . . Playing field
2207/30004	. . Biomedical image processing	2207/30232	. . Surveillance
2207/30008	. . . Bone	2207/30236	. . Traffic on road, railway or crossing
2207/30012	. . . . Spine; Backbone	2207/30241	. . Trajectory
2207/30016	. . . Brain	2207/30242	. . Counting objects in image
2207/30021	. . . Catheter; Guide wire	2207/30244	. . Camera pose
2207/30024	. . . Cell structures <u>in vitro</u> ; Tissue sections <u>in vitro</u>	2207/30248	. . Vehicle exterior or interior
2207/30028	. . . Colon; Small intestine	2207/30252	. . . Vehicle exterior; Vicinity of vehicle
2207/30032	. . . . Colon polyp	2207/30256	. . . . Lane; Road marking
2207/30036	. . . Dental; Teeth	2207/30261	. . . . Obstacle
2207/30041	. . . Eye; Retina; Ophthalmic	2207/30264	. . . . Parking
2207/30044	. . . Fetus; Embryo	2207/30268	. . . . Vehicle interior
2207/30048	. . . Heart; Cardiac		
2207/30052	. . . Implant; Prosthesis	<b>2210/00</b>	<b>Indexing scheme for image generation or computer graphics</b>
2207/30056	. . . Liver; Hepatic	2210/04	. Architectural design, interior design
2207/30061	. . . Lung	2210/08	. Bandwidth reduction
2207/30064	. . . . Lung nodule	2210/12	. Bounding box
2207/30068	. . . Mammography; Breast	2210/16	. Cloth
2207/30072	. . . Microarray; Biochip, DNA array; Well plate	2210/21	. Collision detection, intersection
2207/30076	. . . Plethysmography	2210/22	. Cropping
2207/30081	. . . Prostate	2210/24	. Fluid dynamics
2207/30084	. . . Kidney; Renal	2210/28	. Force feedback
2207/30088	. . . Skin; Dermal	2210/32	. Image data format
2207/30092	. . . Stomach; Gastric	2210/36	. Level of detail
2207/30096	. . . Tumor; Lesion	2210/41	. Medical
2207/30101	. . . Blood vessel; Artery; Vein; Vascular	2210/44	. Morphing
2207/30104	. . . . Vascular flow; Blood flow; Perfusion	2210/52	. Parallel processing
2207/30108	. . Industrial image inspection	2210/56	. Particle system, point based geometry or rendering
2207/30112	. . . Baggage; Luggage; Suitcase	2210/61	. Scene description
		2210/62	. Semi-transparency
		2210/64	. Weathering
		<b>2211/00</b>	<b>Image generation</b>

- 2211/40 . . Computed tomography

#### **WARNING**

Group [G06T 2211/40](#) is impacted by reclassification into groups [G06T 2211/441](#), [G06T 2211/444](#), [G06T 2211/448](#), [G06T 2211/452](#), [G06T 2211/456](#), [G06T 2211/461](#) and [G06T 2211/464](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 2211/404 . . Angiography
- 2211/408 . . Dual energy
- 2211/412 . . Dynamic
- 2211/416 . . Exact reconstruction
- 2211/421 . . Filtered back projection [FBP]
- 2211/424 . . Iterative
- 2211/428 . . Real-time
- 2211/432 . . Truncation
- 2211/436 . . Limited angle
- 2211/441 . . AI-based methods, deep learning or artificial neural networks

#### **WARNING**

Group [G06T 2211/441](#) is incomplete pending reclassification of documents from group [G06T 2211/40](#).

Groups [G06T 2211/40](#) and [G06T 2211/441](#) should be considered in order to perform a complete search.

- 2211/444 . . Low dose acquisition or reduction of radiation dose

#### **WARNING**

Group [G06T 2211/444](#) is incomplete pending reclassification of documents from group [G06T 2211/40](#).

Groups [G06T 2211/40](#) and [G06T 2211/444](#) should be considered in order to perform a complete search.

- 2211/448 . . involving metal artefacts, streaking artefacts, beam hardening or photon starvation

#### **WARNING**

Group [G06T 2211/448](#) is incomplete pending reclassification of documents from group [G06T 2211/40](#).

Groups [G06T 2211/40](#) and [G06T 2211/448](#) should be considered in order to perform a complete search.

- 2211/452 . . involving suppression of scattered radiation or scatter correction

#### **WARNING**

Group [G06T 2211/452](#) is incomplete pending reclassification of documents from group [G06T 2211/40](#).

Groups [G06T 2211/40](#) and [G06T 2211/452](#) should be considered in order to perform a complete search.

- 2211/456 . . Optical coherence tomography [OCT]

#### **WARNING**

Group [G06T 2211/456](#) is incomplete pending reclassification of documents from group [G06T 2211/40](#).

Groups [G06T 2211/40](#) and [G06T 2211/456](#) should be considered in order to perform a complete search.

- 2211/461 . . Phase contrast imaging or dark field imaging

#### **WARNING**

Group [G06T 2211/461](#) is incomplete pending reclassification of documents from group [G06T 2211/40](#).

Groups [G06T 2211/40](#) and [G06T 2211/461](#) should be considered in order to perform a complete search.

- 2211/464 . . Dual or multimodal imaging, i.e. combining two or more imaging modalities

#### **WARNING**

Group [G06T 2211/464](#) is incomplete pending reclassification of documents from group [G06T 2211/40](#).

Groups [G06T 2211/40](#) and [G06T 2211/464](#) should be considered in order to perform a complete search.

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

- 2213/04 . Animation description language
- 2213/08 . Animation software package
- 2213/12 . Rule based animation

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

- 2215/06 . Curved planar reformation of 3D line structures
- 2215/08 . Gnomonic or central projection
- 2215/12 . Shadow map, environment map
- 2215/16 . Using real world measurements to influence rendering

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

- 2219/004 . Annotating, labelling
- 2219/008 . Cut plane or projection plane definition
- 2219/012 . Dimensioning, tolerancing
- 2219/016 . Exploded view
- 2219/021 . Flattening
- 2219/024 . Multi-user, collaborative environment
- 2219/028 . Multiple view windows (top-side-front-sagittal-orthogonal)
- 2219/20 . Indexing scheme for editing of 3D models
- 2219/2004 . . Aligning objects, relative positioning of parts
- 2219/2008 . . Assembling, disassembling
- 2219/2012 . . Colour editing, changing, or manipulating; Use of colour codes
- 2219/2016 . . Rotation, translation, scaling
- 2219/2021 . . Shape modification
- 2219/2024 . . Style variation