SECTION G — PHYSICS

G06 COMPUTING; CALCULATING; COUNTING

G06T **IMAGE DATA PROCESSING OR GENERATION, IN GENERAL** (specially adapted for particular applications, see the relevant subclasses, e.g. G01C, G06K, G09G, H04N) **[6, 2006.01]**

Note(s)

1. 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.
2. This subclass does not cover:
   - photogrammetry or videogrammetry, which are covered by subclass G01C;
   - 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.

Subclass index

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1/00 **General purpose image data processing [6]**

1/20 • Processor architectures; Processor configuration, e.g. pipelining (architectures of general purpose stored programme computers G06F 15/76) **[6]**

1/40 • • Neural networks **[6]**

1/60 • Memory management **[6]**

3/00 **Geometric image transformation in the plane of the image, e.g. from bit-mapped to bit-mapped creating a different image [6]**

3/20 • Linear translation of a whole image or part thereof, e.g. panning **[6]**

3/40 • Scaling of a whole image or part thereof **[6]**

3/60 • Rotation of a whole image or part thereof **[6]**

5/00 **Image enhancement or restoration, e.g. from bit-mapped to bit-mapped creating a similar image [6]**

5/10 • by non-spatial domain filtering **[6]**

5/20 • by the use of local operators **[6]**

5/30 • • Erosion or dilatation, e.g. thinning **[6]**

5/40 • by the use of histogram techniques **[6]**

5/50 • by the use of more than one image, e.g. averaging, subtraction **[6]**

7/00 **Image analysis, e.g. from bit-mapped to non bit-mapped [6]**

7/20 • Analysis of motion **[6]**

7/40 • Analysis of texture **[6]**

7/60 • Analysis of geometric attributes, e.g. area, centre of gravity, perimeter, from an image **[6]**

9/00 **Image coding, e.g. from bit-mapped to non bit-mapped** (compression in general H03M; compression for image communication H04N) **[6]**

9/20 • Contour coding, e.g. using detection of edges **[6]**

9/40 • Tree coding, e.g. quadtree, octree **[6]**

11/00 **2D [Two Dimensional] image generation [6]**

11/20 • Drawing from basic elements, e.g. lines or circles **[6]**

11/40 • Filling a planar surface by adding surface attributes, e.g. colour or texture **[6]**

11/60 • Editing figures and text; Combining figures or text **[6]**

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 **[6]**

13/00 ***Animation [6, 2011.01]***

13/20 • *3D [Three Dimensional] animation* ***[2011.01]***

13/40 • • *of characters, e.g. humans, animals or virtual beings* ***[2011.01]***

13/60 • • *of natural phenomena, e.g. rain, snow, water or plants **[2011.01]***
13/80 • *2D animation, e.g. using sprites **[2011.01]***

15/00 ***3D [Three Dimensional] image rendering [6, 2011.01]***
15/02 • *Non-photorealistic rendering **[2011.01]***
15/04 • *Texture mapping **[2011.01]***
15/06 • *Ray-tracing **[2011.01]***
15/08 • *Volume rendering **[2011.01]***
15/10 • *Geometric effects **[6, 2011.01]***
15/20 • • *Perspective computation **[6, 2011.01]***
15/30 • • *Clipping **[6, 2011.01]***
15/40 • • *Hidden part removal **[6, 2011.01]***
15/50 • *Lighting effects **[6, 2011.01]***
15/55 • • *Radiosity **[2011.01]***
15/60 • • Shadow generation **[6]**
15/80 • • *Shading **[2011.01]***
15/83 • • • *Phong shading **[2011.01]***
15/87 • • • *Gouraud shading **[2011.01]***

17/00 **3D modelling for computer graphics [6]**
17/05 • *Geographic models **[2011.01]***
17/10 • Volume description, e.g. cylinders, cubes or using CSG [Constructive Solid Geometry] **[6]**
17/20 • Wire-frame description, e.g. polygonalisation or tessellation **[6]**
17/30 • Surface description, e.g. polynomial surface description **[6]**

19/00 ***Manipulating 3D models or images for computer graphics [2011.01]***
19/20 • *Editing of 3D images, e.g. changing shapes or colours, aligning objects or positioning parts **[2011.01]***