VERTEX
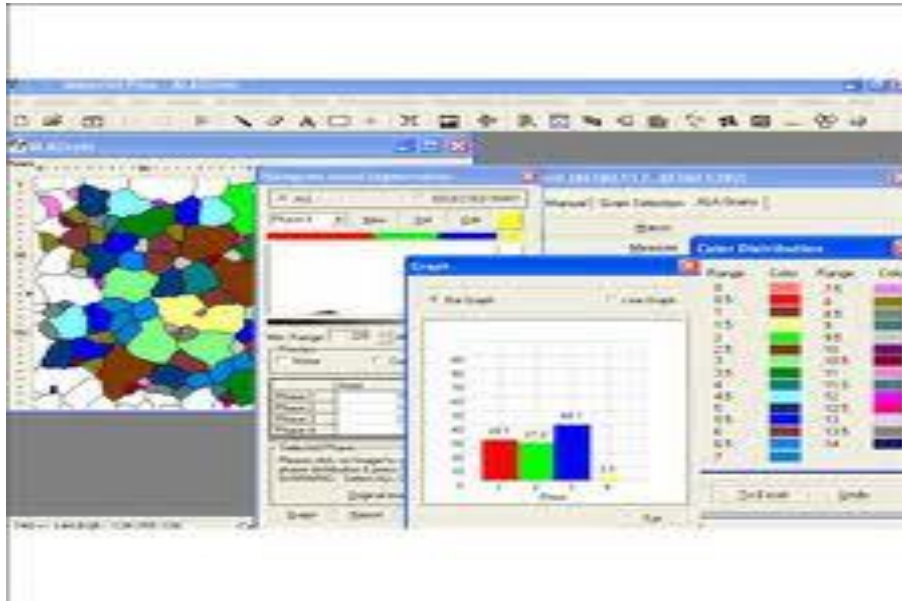
IMAGE ANALYZER SOFTWARE

IMAGE EDITING

VIEW:

- Cut, Copy, and Paste.
- Selected copy by free hand AOL controlled by four arrow keys available on keyboard or mouse withzoom preview.
- Crop, duplicate, restore
- Resize
- Compression
- Conversion to other format BMP, JPG, TIF, PNG, GIF & PSD
- Flood fill or spray with selected color at selected portion.
- Grid creation; 5X5, 10X10 & 100X100 grids (or cells).
- Drawing tool curve, line, square, and circle with node control and provision to change color &thickness of the line.
- Write text in any color or font.
- Pointer to place on an object in either of four directions with provision to change its color &thickness.
- Eraser works only on line, arrow or on any drawing tool.(not on original image)
- Camera Lucida
- Montage feature to merge stored image together. Useful to Merge different focuses of same image.
- Zoom in/out

- Zoomed preview
- Rotation at 90, 180,270 or custom
- Image flipping; horizontal or vertical axis
- Intensity histogram.
- Image Information
- Redo/Undo on all operations.

IMAGE PROCESSING

- Background subtraction and contrast enhancement of color or grayscale images
- Arithmetic image functions (Boolean Math; Add, AND, OR, XOR, DIFF, MIN, MAX, +,-, /, *, AndSimple).

ROUTINE FILTERS

- Invert, Brightness, Contrast, Hue, Saturation, Blur, Noise Remove, Emboss, Engrave, Gamma R,Gamma G, Gamma B, Yellow, Magenta, Cyan, Mosaic, Smooth, Desaturation, Pseudo Color, Colorize, Oilify, DE speckle, Posterize.

SPECIAL FILTERS & KARNELS

- High Boost, High Spatial, Low Pass Spatial, Ranking (Max, Med, Min), Point detection,Line detection, Homogeneity

EDGE DETECTION

- Lap lacing, Sobel, Krisch, Prewitt Gradient, Shift & Difference, Combine, Contrast Base,Quick, Range And Variance.

MORPHOMETERY

- Skeletonizing, Pruning, SKIZ, Histogram Equalization, Histogram Smoothing, HistogramPeak, Histogram Valley, Segmentation by Over/Under and Quantized, Contouring, Dilation / Erosion on Binary, Gray & colored Images, Opening/ Closing on Gray & BinaryImages, Special Opening/Closing, Split/Combine of RGB, YUV, YIQ, XYZ, & HSL, Changing any Image to 1, 4, 8 & 24 bits, Medial Axis. Transformation, Halftone. Image Addition, Image Average, Image Subtraction, Image Multiplication.

MEASUREMENT

- Spatial calibration
- Line measurements for Distance, Length, Width, Perimeter, Angle, Three Point Radius.
- Area by enclosed line controlled by four arrow keys available on keyboard arrows withzoomed preview.

COUNT AND CLASSIFICATION

- Identification of objects in an image, count them, obtain several features measurements. Objects identification by user or automatically. User defined classification on basis of size or intensity.

THRESHOLD PARTICLE MEASUREMENT

- Manual, Auto bright and Auto dark methods to identify intensity range defined object tobe measured. Various calculation & measurements available for selected Particle are; Dimensions, Area, Perimeter, Feret Length, Min/Max Radius, Thread Length, Thread Width, Fiber Length, Fiber Width.

MORPHOMETERY

- Roundness, Shape, Orientation, Elongation, Equal Circular Diameter, Equal Sphere Volume.

LOCATIONAL

- Centroid X, Centroid Y, Major X1, Major Y1, Minor X1, Minor Y1, Major X2, Major Y,Major X2, Minor Y2, Box X1, Box X2, Box Y, Box Y2 & Box Area.

PHASE

- Measure area fraction & volume fraction. Identify multiple phases within Microstructure.Also delineate phases from the histogram as per ASTM Standard E562 & E1245.

NODULES

- MEASURE Nodularity as per ASTM 247 standard. The Nodules & Flakes are separated onthe basis of its shape and aspect radio.
- The detail measurement of each microstructure is available for further analysis.
- The processed image displays non-Nodules in different color.
- The Nodules can be classify by its range on the basis of its size & shape.

POROSITY

- They are recognized on the basis of its intensity as per ASTM B-276 standard. The measurement of each pore is displayed. The processed image displays pores in Red color.

COATING THICKNESS

- This application rapidly measures the thickness or width of a coating at multiple positions along a sample as per ASTM B487 standard.
- Tabulated results available for min/max and mean of width measured at various points of sample cross section.

DECARBURISATION

- Measured depth or width of decarburization occurs as per ASTM 1077 standard.

GRAIN SIZE

- The module analyze Grain image and measure the Grain no. & Grain size using ASTM E112 method.
- The options for measurement available are 1. Manual Trace, 2. Popular Comparison Method, 3. Quick single Grain measurement, 4. ALA method, 5. Interception method.
- Various filters to make user defined templates. Grain boundary repair mathematicalfunction.
- Non-Metallic Inclusion Measure inclusions and report ASTM E-45, E-1245 numbers, cumulative length, widthratio.
- Graphite Flakes
- Graphite Flakes length, width, distribution and percentage as per ASTM A-247-67

REPORT

- Three options: Direct printout with original image processed Image & Tabular results
- Export to MS Office or Excel for further modification.

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Actual product may differ in color and appearance due to constant development.