IMAGE EDITING

VIEW

- Cut, Copy, and Paste.
- Selected copy by free hand AOL controlled by four arrow keys available on keyboard or mouse with zoom 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
- Arithmatic image functions (Boolean Math; Add, AND, OR, XOR, DIFF, MIN, MAX, +, -, /, *, And Simple).

ROUTINE FILTERS


SPECIAL FILTERS & KARNELS

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

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

MORPHOMETERY

- 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 with zoomed 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 to be measured. Various calculation & measurements available for selected Particle are; Dimensions, Area, Perimeter, Feret Length, Min/Max Radius, Thread Length, Thread Width, Fibre Length, Fibre 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 on the 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 decarburisation occurs as per ASTM 1077 standard.

GRAIN SIZE

• The module analyse Grain image and measure the Grain no. & Grain size using ASTM E112 method.
• Various filters to make user defined templates. Grain boundary repair mathematical function.
• Non-Metallic Inclusion
  Measure inclusions and report ASTM E-45, E-1245 numbers, cumulative length, width ratio.
• 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.