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Differential Geometry - Myelin Line detection on myelinated axon



myelin sheats.

Sample preparation: Toluidin blue stained, 1 µm Epon embedded sections

Scanning: 40x immersion oil, autofocus every 3 images

A line detector for dark ridges: $Lxx+Lyy-0.5*sqrt((Lxx-Lyy)^2+4Lxy^2) > 0$

Gaussian scale (σ) 1.5

Pictures: Janssen Research Foundation



















Spatial Color Model - Blood Smear

Blood smear, Giemsa stain, 100x JPEG compression

 $\begin{array}{l} \text{RBC:} \ E_{\lambda} > 0, \ E_{\lambda} + E_{\lambda\lambda} > 0, \ \text{scale} \ (\sigma) \ 0.5 \\ \text{Leucocytes:} \ E_{\lambda} < 0, \ \text{scale} \ (\sigma) \ 12 \\ \text{Leucocyte nuclei:} \ E_{\lambda} < 0, \ E_{\lambda\lambda} > 0, \ \text{scale} \ (\sigma) \ 3 \end{array}$

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