DRAFT

How-to select the correct pinhole size

The pinhole size should be slightly bigger than the image of the Airy Disc at the position of the pinhole:

$$d_{Airy} = (1.22 * lambda / N.A.) * M$$

where M is the magnification of the objective

e.g.:

- 60x water immersion Olympus objective, NA 1.2
- Dye: Alexa 430 (em. max: 539 nm).

⇒ $d_{Airy} = 33µm$

However because the optical elements are never perfect (and therefore the Airy disc slightly bigger) one would typically select a slightly bigger pinhole.

See also the discussion on the PicoQuant TCSPC Forum:
https://forum.picoquant.com/viewtopic.php?f=23&t=1022

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