Minutes of the K'n'K Seminar, 2019-01-18

Project: PITZ
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Agenda:

1) Give talk with discussion: *K'n'K Seminar: Estimation of stat. error in emittance calculation*

Results:

1) Estimating the beam size error as rms value of the rms value yields extremely big values and is wrong

Next steps:

1) Compare the calculation of the error in the emittance in three different ways:
    a. Calculate the emittance ten times, once for each phase space, one phase space for each image taken at each slit position. The rms spread of these emittance results can be interpreted as uncertainty.
    b. Do the same, but take different image numbers at each slit positions to reconstruct the phase spaces (e.g. the first taken image at the first slit position, the second image at the second slit position and so on) and calculate then ten emittances.
    c. Calculate the fourth order moments as uncertainty of the second order moments, see M.G. Kendall and A. Stuart, *The advanced theory of statistics*

Protocol prepared by
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