

RPC Report Instructions

TITLE (not identical to paper title)

Student name

Advisor

Abstract (max 100 words)

Full citation of the main paper, IEEE citation style.

RPC Report Instructions

Technical report (2 pages)

Students prepare a written report, using LaTeX (11pt Arial or 12pt Times New Roman font, single spaced, and 1" margins). The technical report should be maximum 2 pages, plus a title page, figures, and bibliography (considered separately). The title page must include Title, Student Name, Research Advisor, maximum 100-word abstract, full citation of the main paper, including the full title. (The title of the report must be different than the title of the assigned paper, and should convey the research question being addressed. References (minimum 5 references) should be placed after the 2 pages of text. All references used in the report should have proper figure captions and citation. Students may assume that the exam committee has already read the selected article and should not report results verbatim, however, they should summarize and critique the article.

The following organization is recommended for the report:

- 1/2-page: What is the problem being addressed in the article, and what is the state of the art in the field related to this problem? Is the problem important, and why?
- 1/2-page: What is the innovation presented in the current paper? (Explain the concept, how it works in some detail, and how it represents an advance over current/previous knowledge)
- 1/2-page: What are the strengths and weaknesses of the innovation in the present paper relative to other approaches, and why? (Read references and search to understand the field; it need not be exhaustive.
- 1/2-page minimum: Propose a further line of research in the field based on analysis of the current paper, and the insights gained from it. Students must be able to back proposed ideas with rational arguments.
- Use of figures: Figures should be numbered in the order they are discussed in the report. Figure captions should clearly explain the content and importance of the figure. The caption also needs to indicate the sources and properly formatted reference (see below). If the student made the figure and it is unpublished, no reference is needed.
- Use of references: The report should cite previous work to substantiate claims (minimum 5 relevant citations, use IEEE citation style only).

Figures

Figures, Tables and Equations should be labeled with figure numbers and descriptive figure captions. Each figure should be cited, indicating the source.

Example:

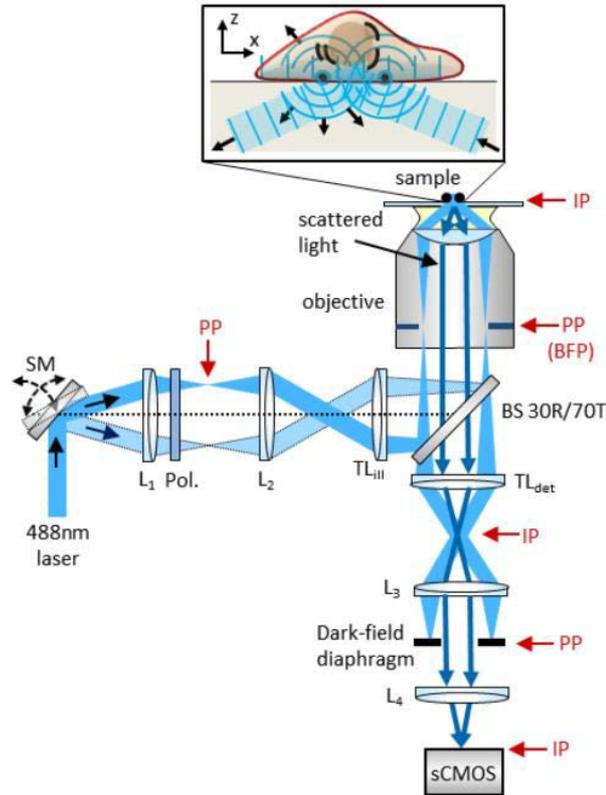


Figure 1: Schematic of TIR-DF imaging system developed by Jünger et al. This imaging system uses an s-polarized 488nm coherent laser source rotated by a tilt-tip mirror to illuminate the sample under oblique illuminations. To maintain uniform s-polarization across all oblique illuminations, a half waveplate in series with an azimuthal polarizer is placed in the Fourier plane of the imaging system to transmit the field through a small subsection of the azimuthal polarizer. This process achieves s-polarization for each azimuthal illumination direction allowing for the sample to be illuminated with a single polarization. This system relays the s-polarized field to the objective back-focal plane with a 1.7x magnification, allowing for plane wave illumination of the sample at supercritical angles. The transmitted scattered object field is captured by the objective and relayed to the sCMOS camera with 100x magnification after being spatially filtered by the dark-field diaphragm shown above. Dark-field imaging is achieved through the dark-field diaphragm blocking the TIR field, and the full 360 degree azimuthal illumination scan is obtained during a single image acquisition time. Image obtained from Jünger et al. [3].

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References

References should be placed after the 2 pages of text and figure pages.

1. A minimum 5 references should be used. Students should expect to answer questions on the references cited.
2. Use IEEE citation style.

Example:

3. F. Jünger, P.V. Olshausen, and A. Rohrbach. "Fast, label-free super-resolution live-cell imaging using rotating coherent scattering (ROCS) microscopy." *Scientific Reports* 6 (2016).