

Artykuł naukowy

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Plan wypowiedzi:

- Uwagi ogólne:
 - Jak dobrze napisać pracę w danym języku,
 - W jakiej formie,
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 - Kolejność autorów i wkład w pracę,
 - Komu należy składać podziękowania,
 - Słowa kluczowe.
- 10 kroków pisania artykułu:
 - Wykorzystanie strony czasopisma do pisania pracy zwłaszcza tzw. **template**,
 - Tworzenie baz bibliograficznych.
- Polemika z recenzentami – poprawa zgłaszanych prac naukowych – **znowu** 😞

www.leszek.jaroszewicz.com/lecture

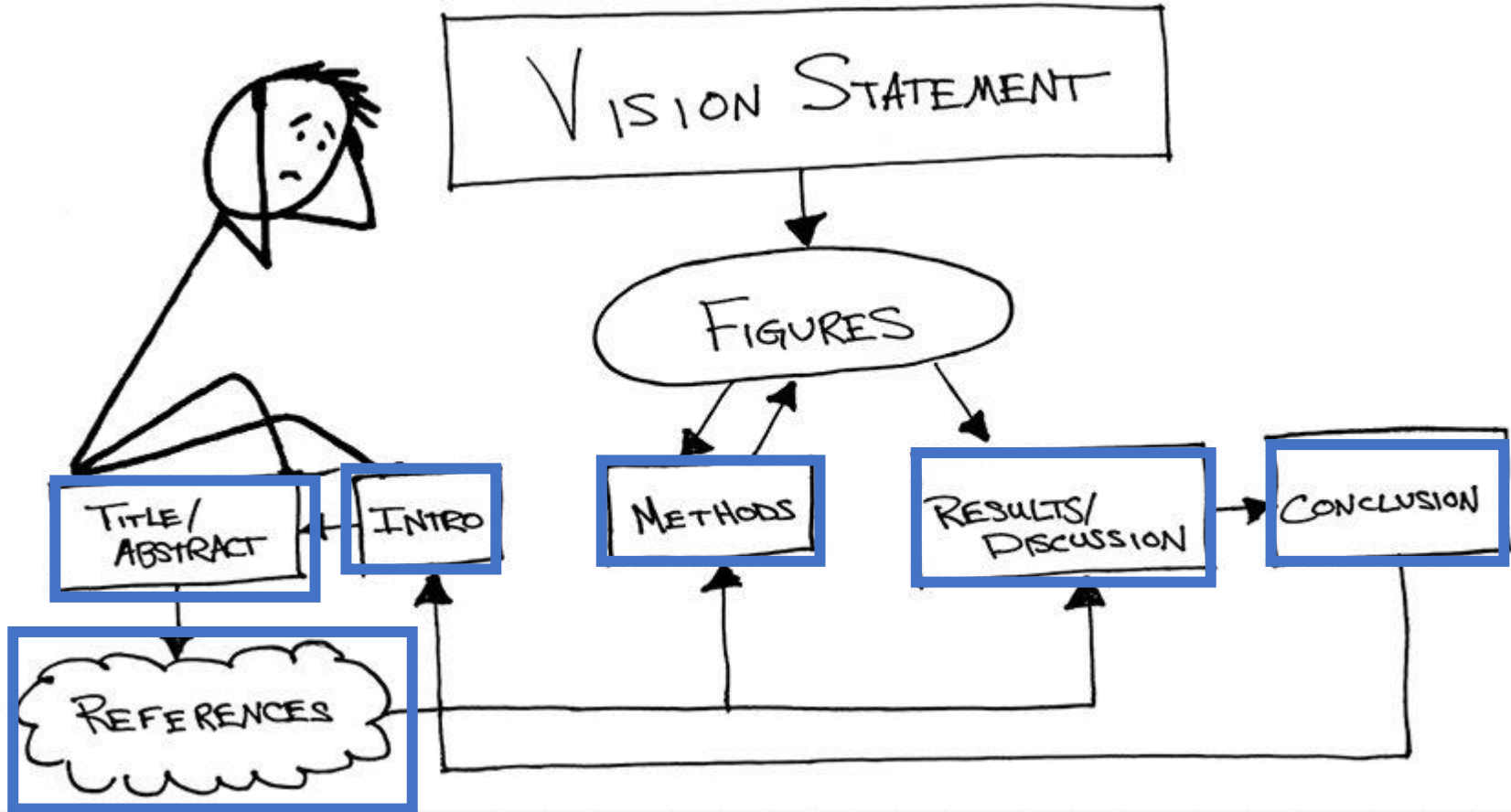
The screenshot shows a web browser displaying the website of Leszek R. Jaroszewicz. The page title is "Lecture since 2nd semester 2018/2019". The main content is a table of lectures and publications. The table is organized into two sections: "Historiokomunikacyjne Zastosowania Światłowodów" and "Metodologia Badań Naukowych".

Historiokomunikacyjne Zastosowania Światłowodów			
1	NZS wykład 01	NZS-01	Terminologia czujników światłowodowych
2	NZS wykład 02	NZS-02	Interferometria światłowodowa
3	NZS wykład 03	NZS-03	Optyczne przetworniki fazowe
4	NZS wykład 04	NZS-04	Zesady zwłokierostnia czujników punktowych
5	NZS wykład 05	NZS-05	Czujniki o rozdzielonym polu detekcji
6	NZS wykład 06	NZS-06	Zróżnicowanie światłowodowe
7	NZS wykład 07	NZS-07	Czujniki światłowodowe – przykłady
8	NZS wykład 08	NZS-08	Światłowodowy segmentometri rotacyjny

Metodologia Badań Naukowych		
1	Szkolenie doktorskie MBN1	Formalna strona badań naukowych
2	Szkolenie doktorskie MBN2	Wartość naukowa
3	Szkolenie doktorskie MBN3	Artykuł naukowy
4	Szkolenie doktorskie MBN4	Upowszechnianie wyników badań
5	Szkolenie doktorskie MBN5	Prezentacja naukowa

The website also features a navigation menu with "Home", "Baza", "Lectures", "Publications", "Photos", and "Videos". On the right side, there are sections for "Recent Posts", "Archives", and "Categories". The footer of the page contains the copyright notice "© Leszek R. Jaroszewicz 2018-2020".

Dziesięć prostych kroków by napisać publikację naukową



by [Andrea Martin Armani, SPIE Fellow, Photonics Focus, Jan. 2020, 6-7]

0. General remarks (Uwagi ogólne)

Zweryfikowane i uzupełnione przez me już niestety ponad 40-letnie doświadczenie skutkujące łącznie ponad 420 opublikowanymi recenzowanymi pracami w tym 155 w pismach z bazy JCR jak i doświadczeniem wynikającym z recenzowania prac w pismach z JCR oraz pełnienia od ponad 8 lat funkcji Editor-in-Chief czasopisma z bazy JCR *Opto-Electronics Review* (IF=2.227):

0-1. Pisz pracę w języku w którym ją publikujesz

0-2. Jednolita forma językowa – najlepiej strona bierna

In this paper we present investigation regards dark hole → An investigation regards dark hole are prestented in this paper.

0-3. Autorstwo pracy

Intellectual Property Law ⇔ Kodeks Etyki Pracownika Naukowego Rozdz.3.3, etc., etc., (jeden za chwilę)

- Autorstwo publikacji naukowej **musi opierać się wyłącznie na twórczym i istotnym wkładzie w badania**, a więc na znaczącym udziale w inicjowaniu idei naukowej, tworzeniu koncepcji oraz projektowaniu badań, na istotnym udziale w pozyskiwaniu danych, w analizie i interpretacji uzyskanych wyników oraz w istotnym wkładzie w szkicowanie i pisanie artykułu lub jego krytycznym poprawianiu z punktu widzenia zawartości intelektualnej.
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Who should be listed as an author on your scientific article? IEEE's definition of authorship will help you answer that question and clarify each author's responsibilities.

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- 3 Approved the final version of the article as accepted for publication, including references.

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Source: [IEEE Publication Services and Products Board Operations Manual](#), Section 8.2.1.A.1.

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- 2 Obtaining from all co-authors their assent to be designated as such, as well as their approval of the final version of the article as accepted for publication; and
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Tip: Select your article's corresponding author before submitting to a publication. Co-authors remain responsible for work submitted, reviewed, and published under their names.

Source: [IEEE Publication Services and Products Board Operations Manual](#), Section 8.2.1.A.5.

0-4. Kolejność autorów i wkład w prace (przykład)

Investigation of rotational motion in a reinforced concrete frame construction by a fiber optic gyroscope

A. T. Kurzych^{a*}, L. R. Jaroszewicz^a, J. K. Kowalski^b, B. Sakowicz^c

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^cDep. of Microelectronics and Computer Science, Lodz University of Technology, 221/223 Wólczńska St., Lodz 90-924, Poland

Author's statement

A. T. Kurzych, L. R. Jaroszewicz: FOSREM's optical part construction and article preparation, as well as research conducting; J. K. Kowalski, B. Sakowicz: FOSREM's electronic part construction and data processing.

Prof. dr hab. inż. L. R. Jaroszewicz
Institute of Applied Physics
Military University of Technology
Warszawa

Warszawa, 19. 06. 2016 r.

Oświadczam,

Oświadczam, że w niniejszym artykule naukowym mój udział, który oceniam na 5%, polegał na pomocy w syntezie δ -BiB₃O₆ oraz jej opisie na potrzeby artykułu.

I. Fuks-Janczarek, T. Kobayashi, X.Chen, M. Oyama, A. Wojciechowski, M. Pepczyńska, M. Chronik, A. Majchrowski, L.R. Jaroszewicz, S. Klosowicz, I.V. Kityk, 2014, Nonlinear optical features of δ -BiB₃O₆/PVA polymer nanocomposites deposited on aluminum zinc oxide substrates containing Ag nanoparticles, *Physica E*, v. 64, pp. 1-6;



Acknowledgements

This work was financially supported by the National Science Centre, Poland - project no. 2016/23/N/ST10/02508, as well as program POIR 04.02.00-14-A003/16 "EPOS – System Obserwacji Płyty Europejskiej".

0-5. Słowa kluczowe

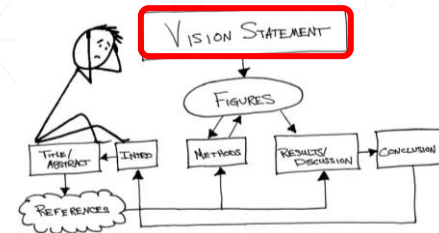
rotational seismology, fiber-optic rotational seismometer, civil engineering, sensors

1. Write a Vision Statement (napisz MYŚL PRZEWODNIA)

Jaka jest główna informacja związana z tą pracą? Wyraź ją w JEDNYM zdaniu, albowiem do tego zdania będziesz powracać kilkakrotnie w artykule. Na początek myśl o artykule jak o oświadczeniu prasowym: jaki jest jego podtekst?

Jeśli nie jesteś w stanie wyrazić kluczowego odkrycia lub osiągnięcia w jednym zdaniu, to nie jesteś jeszcze gotowy do napisania tego artykułu.

MYŚL PRZEWODNIA powinna ukierunkować cię na kolejną ważną decyzję: gdzie (do jakiego pisma) posłać pracę? Każde czasopismo, obok ściśle określonych obszarów zainteresowania, ma oddzielny styl jak i porządek rozdziałów. Podejmując tę decyzję przed napisaniem pierwszego słowa oszczędzisz sobie wiele czasu w pracy nad manuskrypcem. Kiedy wybierzesz czasopismo, sprawdź jego stronę internetową odnośnie wymagań związanych z formatowaniem tekstu, dopuszczalną długością artykułu, formatu rysunków, etc.



Applied sciences

Opto-Electronics Review



DESCRIPTION

Opto-Electronics Review is peer-reviewed and quarterly published by the Polish Academy of Sciences (PAN) and the Association of Polish Electrical Engineers (SEP) in electronic version. It covers the whole field of theory, experimental techniques, and instrumentation and brings together, within one journal, contributions from a wide range of disciplines. The scope of the published papers includes any aspect of scientific, technological, technical and industrial works concerning generation, transmission, transformation, detection and application of light and other forms of radiative energy whose quantum unit is photon. Papers covering novel topics extending the frontiers in optoelectronics or photonics are very encouraged. It has been established for the publication of high-quality original papers from the following fields:

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CiteScore 2020:	4.6
Ministry of Education and Science 2021*:	100 points

* changed Dec. 1st, 2021

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ISSN 1896-3757

PUBLISHERS

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Article info	Abstract
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1. Introduction (*Heading 1*)

This template provides authors with most of the formatting specifications needed for preparing electronic versions of their papers. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter needs creation of these components, incorporating the applicable criteria that follow. (*body text*)

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Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable. Abbreviations that incorporate periods should not have spaces: write "C.N.R.S.," not "C. N. R. S." Do not use abbreviations in the title unless they are unavoidable.

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- Use either SI (MKS) or CGS as primary units (SI units are encouraged). English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as "3.5-inch disc drive."
- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally.
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$$(x + a)^n = \sum_{k=0}^n \binom{n}{k} x^k a^{n-k} \quad (1)$$

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All graphics named as Figures should be numbered consecutively and should carry a caption. Please ensure maximum black-white contrast in your original figures. Figures may be published in colour. All figures should be embedded in text. OPELRE will do the final formatting of your paper. In addition to submitting figures within your final manuscript, figures should be submitted individually, separate from the manuscript in one of the file formats listed beneath.

4.1 File formats for graphics

Format and save your graphics using a suitable graphics processing program that will allow you to create the images

Symbol	Quantity	Conversion from Gaussian and CGS EMU to SI*
Φ	magnetic flux	$1 \text{ Mx} \rightarrow 10^{-8} \text{ Wb} = 10^{-8} \text{ V}\cdot\text{s}$
B	magnetic flux density, magnetic induction	$1 \text{ G} \rightarrow 10^{-4} \text{ T} = 10^{-4} \text{ Wb/m}^2$
H	magnetic field strength	$1 \text{ Oe} \rightarrow 10^3/(4\pi) \text{ A/m}$
m	magnetic moment	$1 \text{ erg/G} = 1 \text{ emu}$ $\rightarrow 10^{-3} \text{ A}\cdot\text{m}^2 = 10^{-3} \text{ J/T}$
M	magnetization	$1 \text{ erg}/(\text{G}\cdot\text{cm}^3) = 1 \text{ emu/cm}^3$ $\rightarrow 10^3 \text{ A/m}$
$4\pi M$	magnetization	$1 \text{ G} \rightarrow 10^3/(4\pi) \text{ A/m}$
σ	specific magnetization	$1 \text{ erg}/(\text{G}\cdot\text{g}) = 1 \text{ emu/g}$ $\rightarrow 1 \text{ A}\cdot\text{m}^2/\text{kg}$
J	magnetic dipole moment	$1 \text{ erg/G} = 1 \text{ emu}$ $\rightarrow 4\pi \times 10^{-10} \text{ Wb}\cdot\text{m}$
J	magnetic polarization	$1 \text{ erg}/(\text{G}\cdot\text{cm}^3) = 1 \text{ emu/cm}^3$ $\rightarrow 4\pi \times 10^{-4} \text{ T}$
μ_r	relative permeability	$\mu \rightarrow \mu_r$
w, W	energy density	$1 \text{ erg/cm}^3 \rightarrow 10^{-1} \text{ J/m}^3$
N, D	demagnetizing factor	$1 \rightarrow 1/(4\pi)$

Vertical lines are optional in tables. Statements that serve as captions for the entire table do not need footnote letters.

*Gaussian units are the same as cgs emu for magnetostatics; Mx = maxwell, G = gauss, Oe = oersted; Wb = weber, V = volt, s = second, T = tesla, m = meter, A = ampere, J = joule, kg = kilogram, H = henry.

Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules and shading in table cells. Large tables may span across both columns. Table heads should appear above the tables. Insert tables after they are cited in the text. When referencing your tables within your paper, do not abbreviate "Table."

6. Conclusions

The conclusions section is required. Although conclusions may review the main points of the paper, do not replicate the abstract as the conclusion. Conclusions might elaborate on the importance of the work or suggest applications and extensions.

Author statement

For research articles with several authors, a short paragraph specifying their individual contributions must be provided. The following statements should be used "research concept and design, X.X. and Y.Y.; collection and/or assembly of data, X.X.; data analysis and interpretation, X.X.; writing the article, X.X., Y.Y. and Z.Z.; critical revision of the article, X.X.; final approval of article, X.X. and Z.Z.". Authorship must be limited to those who have contributed substantially to the work reported.

Acknowledgements

Put sponsor acknowledgements unnumbered at the end of the text and before References.

4.6.1 Using labels within figures

1) Figure axis labels are often a source of confusion. Use words rather than symbols. As an example, write the quantity "Magnetization," or "Magnetization M," not just "M." Put units in parentheses. Do not label axes only with units. As in Fig. 1, for example, write "Magnetization (A/m)" or "Magnetization (A m⁻¹)," not just "A/m."

Figure labels should be legible, approximately 8 to 10-point type.

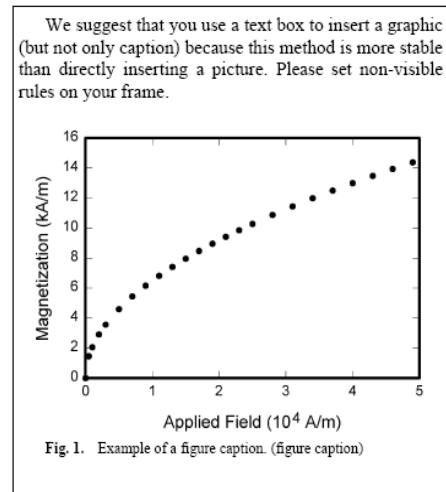
2) Subfigure labels in Multipart Figures and Tables should be combined and labeled before final submission. Labels should appear centered below each subfigure in 8-point Times New Roman font in the format of (a) (b) (c).

4.6.2 Referencing a figure within your paper

When referencing your figures within your paper, use the abbreviation "Fig." At the beginning of a sentence do not abbreviate and use "Figure".

4.7 Positioning Figures

Large figures may span across both columns. Figure captions should be below the figures. Insert figures after they are cited in the text. Place figure captions below the figures; place table titles above the tables. Please do not include captions as part of the figures, or put them in "text boxes" linked to the figures. Also, do not place borders around the outside of your figures.



5. Tables

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body.

as PostScript (PS), Encapsulated PostScript (.EPS), Tagged Image File Format (.TIFF/.TIF), Portable Document Format (.PDF), Windows MetaFile (WMF) or Portable Network Graphics (.PNG) which sizes them and adjusts the resolution settings. If you created your source files in Microsoft Word, Microsoft PowerPoint, or Microsoft Excel you will be able to submit the graphics without converting. Though it is not required, it is strongly recommended that these files should be saved in PDF format rather than DOC, XLS, or PPT. Doing so will protect your figures from common font and arrow stroke issues that occur when working on the files across multiple platforms. When submitting your final paper, your graphics should all be submitted individually in one of these formats along with the manuscript.

4.2 Sizing of graphics

Most charts, graphs, and tables are one column wide (3.26 inches/83 millimeters/970 pixels) or page wide (6.77 inches/172 millimeters/2000 pixels). The maximum depth a graphic can be is of 8.5 inches / 216 millimeters. When choosing the depth of a graphic, please allow space for a caption. Figures can be sized between column and page widths if the author chooses so, however it is recommended that figures are not sized less than column width unless when necessary.

4.3 Resolution

The proper resolution of your figures will depend on the type of figure. Colour, and grayscale figures should be of at least 300 dpi. Line art, including tables should be of a minimum of 600 dpi.

4.4 Vector art

In order to preserve the figures' integrity across multiple computer platforms, we accept files in the following formats: EPS/PDF/PS. All fonts must be embedded, or text converted to outlines in order to achieve the best-quality results.

4.5 Colour space

All colour figures should be generated in RGB colour space (red/green/blue). Grayscale images should be submitted in Grayscale colour space.

4.6 Accepted fonts within figures

When preparing your graphics OPELRE suggests that you use of one of the following Open Type fonts: Times New Roman, Arial, and Symbol. If you are supplying EPS, PS, TIFF or PDF files all fonts must be embedded. Some fonts may only be native to your operating system; without the fonts embedded, parts of the graphic may be distorted or missing.

A safe option when finalizing your figures is to strip out the fonts before you save the files, creating "outline" type. This converts fonts to artwork what will appear uniformly on any screen.

Source references in the text of the article should be given in square brackets, e.g. [1], numbered consequentially in citation order and listed at the end of the manuscript. Please ensure that every reference cited in the text is also present in the reference list (and *vice versa*). Unpublished results and personal communications are not recommended in the reference list but may be mentioned in the text. If these references are included in the reference list, they should follow the standard reference style of the journal and should include a substitution of the publication date with either 'Unpublished results' or 'Personal communication'. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Web references

As a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates, reference to a source publication, etc.), should also be given.

References in a special issue

Please ensure that the words 'this issue' are added to any references in the list (and any citations in the text) to other articles in the same Special Issue.

Reference style

Text: as is mentioned above indicate references by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given.

List: Number the references (numbers in square brackets) in the list in the order in which they appear in the text. Using a reference manager program please choose *Nature* format for your references.

Reference to a journal publication should be in the following form: surname(s) and initial(s) of author(s), title of a paper, abbreviated journal name (*italic*) (e.g. <https://casi.cas.org/search.jsp>), volume (**bold**), issue (only if needed), page numbers (inclusive) or identifier and year in brackets, DOI [1].

Reference to a book should be in the following form: surname(s) and initial(s) of author(s), title of a book (*italic*), pages and the publisher, year of edition (in brackets) [2].

Reference to a chapter in an edited book should be in the following form: surname(s) and initial(s) of author(s), title of a chapter, title of book (*italic*), surname(s) and initial(s) of editor(s) (in brackets), pages, the publisher, year of edition (in brackets) [3].

Reference to a website should be in the following form: surname(s) and initial(s) of author(s), title, source name, years, webpage address, and access data (in brackets) [4].

Reference to a journal publication in other language than English should be translated into English and at the end, the language of origin should be given [5].

Reference to a conference publication should be in form: surname(s) and initial(s) of author(s), title of a paper, conference name (*italic*), year [6].

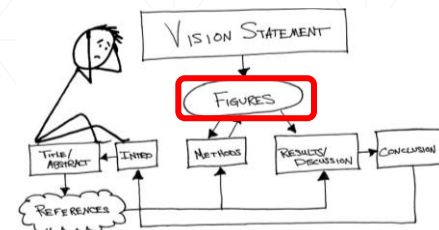
Examples: (Normal reference style)

- [1] Pujolle-Robic, C. & Noirez, L. Observation of shear-induced nematic-isotropic transition in side-chain liquid crystal polymers. *Nature* 409, 167–171 (2001). <https://doi.org/10.1038/35051537>
- [2] Goshtasby, A. A. *2-D and 3-D Image Registration*. (John Wiley & Sons, Inc., 2004). <https://doi.org/10.1002/0471724270>
- [3] Cuevas, E., Zaldivar, D. & Perez-Cisneros, M. Ellipse Detection on Images Inspired by the Collective Animal Behavior. in *Applications of Evolutionary Computation in Image Processing and Pattern Recognition* (eds. Zaldivar, D. & Perez-Cisneros, M.) 53–77 (Springer International Publishing, 2016). <https://doi.org/10.1007/978-3-319-26462-2>
- [4] Andrew, E. Friend Or Foe: What The Shape Of Your Face Says About You. *IFLScience* (2015). Available at: <https://www.iflscience.com/plants-and-animals/friend-or-foe-what-shape-your-face-says-about-you/>. (Accessed: 30th October 2018).

- [5] Yorozu, Y., Hirano, M., Oka, K. & Tagawa, Y. Electron spectroscopy studies on magneto-optical media and plastic substrate interface. *IEEE Transl. J. Magn.* 2, 40-41 (1987) [in Japanese].
- [6] Franco-Anaya, R., Carr, A.J. & Schreiber, K.U. Laboratory and in-situ measurements of structural rotations using fibre-optic gyroscopes. in *15th World Conference on Earthquake Engineering (15WCEE)* (2012).

Footnotes

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the reference list. Use letters for table footnotes.



2. Don't Start at the Beginning (nie zaczynaj od początku !)

Logicznie myśląc, sensowne jest rozpocząć pisanie artykułu od streszczenia i/lub co najmniej od wprowadzenia.

NIE, Nie, nie ! Takie podejście często kończy się napisaniem zupełnie różnej treści niż ta którą chciałeś podać w przygotowywanej pracy. Jeśli zaczynasz pisać artykuł od streszczenia i/lub wprowadzenia, to gdy dojdiesz w końcu do końca jego pisania, będziesz MUSIAŁ przepisać na nowo te dwie pierwsze części.

3. Storyboard The Figures (stwórz Szkic Planszowy)

Szkic planszowy jest najlepszym sposobem na rozpoczęcie pracy nad manuskrytem, gdyż rysunki w takim szkicu tworzą szkielet artykułu. W odróżnieniu od Ciebie czytelnik nie spędził nad tymi badaniami roku życia czy nawet więcej. Zatem pierwsza plansza powinna zainspirować i zachęcić go do poznania twego odkrycia.

Klasyczne podejście organizacyjne polega na tworzeniu schematu planszowego artykułu gdzie wszystkie rysunki znajdują się na jednym lub kolejnych slajdach. Dobrze jest zrobić to za pomocą oprogramowania, takiego jak np. PowerPoint, etc. Na pierwszym slajdzie umieszcza się MYŚL PRZEWODNIĄ, a wszystkie rezultaty na kolejnych. Rozpocznij od prostego zaprezentowania wszystkich danych, bez koncentrowania się na ich kolejności lub ważności. Następnie, w kolejnych krokach, staraj się dokonać konsolidacji zebranych danych (np. poprzez tworzenie połączonych rysunków) oraz ustal ich wzajemne relacje (tzn. co powinno być w głównym tekście a co w uzupełnieniach, dodatkach). Rysunki powinny być uporządkowane logiczne tak by wspierały twoją wypowiedź. Przyjęty porządek slajdów może ale nie musi być zgodny z kolejnością w jakiej uzyskano dane. Jeśli jakieś dane zostały zagubione, to w tym momencie powinno stać się to oczywiste.

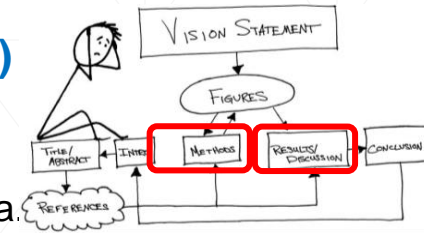
4. Write the Methods Section (napisz rozdział o Metodach Badawczych)

Ze wszystkich rozdziałów, rozdział zawierający metodę/metody badań jest jednocześnie najłatwiejszym oraz najbardziej ważnym rozdziałem wymagającym dokładnego napisania.

Dowolne rezultaty w artykule powinny być możliwe do odtworzenia na bazie opisu z tego rozdziału, zatem jeśli opracowałeś nową metodę badawczą, opisz ją akcentując istotne detale, kroki, sprawdzenia, protokoły, etc., o ile są naprawdę istotne. Natomiast jeśli bazujesz na poprzednich metodach badawczych, nie musisz ich opisywać ze szczegółami, wystarczy, że podasz odpowiednie źródło jako bibliografię.

Powszechnym błędem jest włączaniem do opisu metody uzyskanych rezultatów. Rozdział o metodzie jest prostym zapisem tego co zrobiłeś.

Rozdział o metodzie badawczej jest przykładem rozdziału w którym wiedza o piśmie do którego wysyłasz swą pracę ma istotne znaczenie. Niektóre czasopisma wymagają by ten rozdział znajdował się pomiędzy wprowadzeniem a wynikami, inne każą umieszczać go na końcu artykułu. Zależnie od lokalizacji rozdział o metodzie badawczej, zawartość rozdziału z wynikami oraz rozdziału z dyskusją może się różnić zdecydowanie.



5. Write the Results and Discussion Section (opisz Wyniki i je Przedyskutuj)

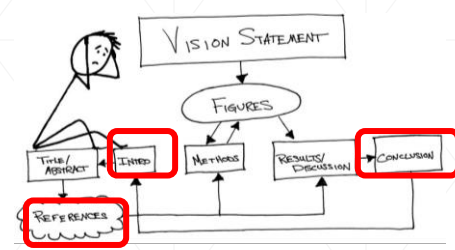
Niektóre czasopisma zawierają wyniki i dyskusję jako oddzielne rozdziały. Jednakże, obecną tendencją jest łączenie tych rozdziałów. Rozdział ten powinien kształtować objętość twojej pracy poprzez opis uprzednio naszkicowanego schematu pracy w postaci szkicu planszowego!

Dobrym sposobem jest rozpocząć od paru paragrafów o każdym rysunku z twego szkicu, wyjaśniając:

1. wyniki (opis powinien być wolny od interpretacji),
2. znaczenie wyników dla przyjętej hipotezy naukowej (tutaj powinna rozpocząć się interpretacja wyników),
3. znaczenie dla dziedziny badań (wyjaśnienie to jest wyłącznie twą opinią).

Kiedykolwiek jest to możliwe, wyjaśnienia powinny być ilościowe i konkretne zwłaszcza gdy porównuje się je z poprzednimi pracami. Dodatkowo, błędy zastosowanej metody eksperymentalnej powinny być określone, zaś znaczniki błędów dołączone do wyników eksperymentalnych i poddane odpowiedniej analizie.

Możesz użyć tego rozdziału celem pomocy czytelnikowi zrozumienia jak two badania dopasowują się do ogółu badan w danej dziedzinie oraz wyjaśnić jaki wnoszą dodatkowy wkład do wiedzy. Rozdział ten powinien bezpośrednio prowadzić do podsumowania.



6. Write the Conclusion (napisz Wnioski)

We wnioskach "podsumuj" wszystko to co napisałeś w artykule. Podkreśl najważniejsze elementy uzyskane w pracy i ponownie omów dlaczego są one ważne. Podaj czego dowiodłeś i zakończ najistotniejszą rzeczą jaką twym zdaniem czytelnik powinien zapamiętać z artykułu – znowu podaj MYŚL PRZEWODNIĄ. Z wniosków czytelnik powinien móc zrozumieć ogólny sens twych badań włączając twoje rezultaty jak i ich znaczenie.

7. Now Write the Introduction (teraz napisz Wprowadzenie)

Wprowadzenie ustala pewnego typu scenariusz artykułu. Jest to fikcyjna opowieść - wprowadzenie jest swoistym pokazem, gdzie charakterystyka pracy, założenia, uwarunkowania historyczne oraz główne konflikty (problemy) są poruszone.

Wszystkie artykuły naukowe mają podobną formułę. Wprowadzenie daje pogląd na two badania z pełnej 360 stopniowej perspektywy: definiuje problem w szerszym polu widzenia; przegląda co inne grupy badawcze zrobiły w kierunku rozwiązania tego problemu (przegląd literaturowy); oraz przedstawia twoją hipotezę, która może włączać oczekiwania odnośnie jak two badania wpłyną na pogłębienie wiedzy. Większość odnośników literaturowych powinna być zamieszczona we wprowadzeniu – Pamiętaj NIE MA ICH w podsumowaniu.

8. Assemble References (dołącz Bibliografię)

Pierwszą rzeczą, którą każdy nowy autor powinien zrobić to opanowanie dobrego elektronicznego systemu zarządzającego bibliografią. Spośród szerokiej gamy dostępnych rozwiązań proponuję **EndNote™** lub **Mendeley** albowiem oba są dla nas dostępne jako licencjonowanych użytkowników BG WAT.

Uwaga: dobrze jeśli w grupie badawczej używa się tego samego systemu, gdyż umożliwia to wymianę danych.

.....However, it turned out that three additional rotational degrees of freedom during measurements of ground vibrations can provide new information valuable for seismological society [2-5].

References:

- [2] Huang, B. S. Ground Rotational Motions of the 1991 Chi-Chi, Taiwan, Earthquake As inferred from Dense Array Observations, *Geophys. Res. Lett.* **30**(6), 1307–1310 (2003). doi: 10.1029/2002GL015157.
- [3] Igel, H., Schreiber, U., Flaws, A., Schuberth, B., Velikoseltsev, A., Cochard, A. Rotational Motions Induced by the M8.1 Tokachi-Oki Earthquake, September 25, 2003, *Geophys. Res. Lett.* **32**, (2005). doi: 10.1029/2004GL022336.
- [4] Igel, H., Cochard, A., Wassermann, J., Flaws, A., Schreiber, U., Velikoseltsev, A., Pham Dinh, N. Broad-Band Observations of Earthquake-Induced Rotational Ground Motions, *Geophys. J. Int.* **168**(1), 182–196 (2007). doi: 10.1111/j.1365-246X.2006.03146
- [5] Takeo, M. Ground Rotational Motions Recorded in Near-Source Region of Earthquakes, in *Earthquake Source Asymmetry, Structural Media and Rotation Effects* (eds. Teisseyre, R., Takeo, M., Majewski, E.) 157–167 (Springer-Verlag Berlin Heidelberg, 2006).

Acta Geophysica

A possibility of the existence of rotational motions in the seismic field has been discussed from the beginning of the earthquake's investigations. The interest in this phenomenon has been stimulated by strange, rotary and even screw-like deformations after earthquakes, often appearing on the parts of the tombs and monuments (Kozák 2006, Ferrari 2006).

References:

- Ferrari, G. (2006), Note on the historical rotation seismographs. **In:** R. Teisseyre, M. Takeo, and E. Majewski (eds.), *Earthquake Source Asymmetry, Structural Media and Rotation Effects*, Springer, Berlin, 367-376.
- Jaroszewicz, L.R. (2001), Polarisation behaviour of different fiber-optic interferometer configurations under temperature changes, *Opt. Appl.* **31**, 399-423.
- Jaroszewicz, L.R., and Z. Krajewski (2008), Application of fibre-optic rotational seismometer in investigation of seismic rotational waves, *Opto-Electron. Rev.* **16**, 3, 314-320, DOI: 10.2478/s11772-008-0015-2.

.....

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- Kozák, J.T. (2006), Development of earthquake rotational effect study. **In:** R. Teisseyre, M. Takeo, and E. Majewski (eds.), *Earthquake Source Asymmetry, Structural Media and Rotation Effects*, Springer, Berlin, 3-10

Na bazie [Mariola Nawrocka, Iwona Piwońska „Menadżery bibliografii”, *Głos Akademicki* 3/2019, 37-38]:

Za pomocą jednego kliknięcia *Wstaw bibliografię* tworzy się automatycznie kompletną i odpowiednio sformatowaną do wymogów bibliografię.

EndNote – udostępniony na platformie *Clarivate Analytics* (WoS) funkcjonuje w trybie online dla użytkowników BG WAT, którzy założyli na *WoS* indywidualne konto. Umożliwia on tworzenie, zarządzanie i formatowanie bibliografii.

Zakładka *Collect* (*Online Search, New References, Import References*) pozwala na pozyskanie opisu poprzez bezpośredni eksport, przechwytywanie, wyszukiwanie online, importowanie plików tekstowych lub ręczne wprowadzenie, który to opis EndNote zapisuje domyślnie w folderze *Unfiled*.

Zakładka *Organize* (*Manage My Groups, New Group*) pozwala na uporządkowanie pobranych opisów, jak i udostępnienia ich innym użytkownikom.

Zakładka *Match* w prosty sposób pozwala na wyszukanie czasopism odpowiadających obszarom badawczym wcześniej wskazanym w swych publikacjach

Zakładka *Downloads* udostępnia wtyczki:

- *Cite While You Write* – wtyczka umożliwiająca pracę w programie edytorskim,
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Clarivate Analytics | EndNote



My References | **Collect** | Organize | Format | Match | Options | Downloads

Online Search | New Reference | Import References

Online Search

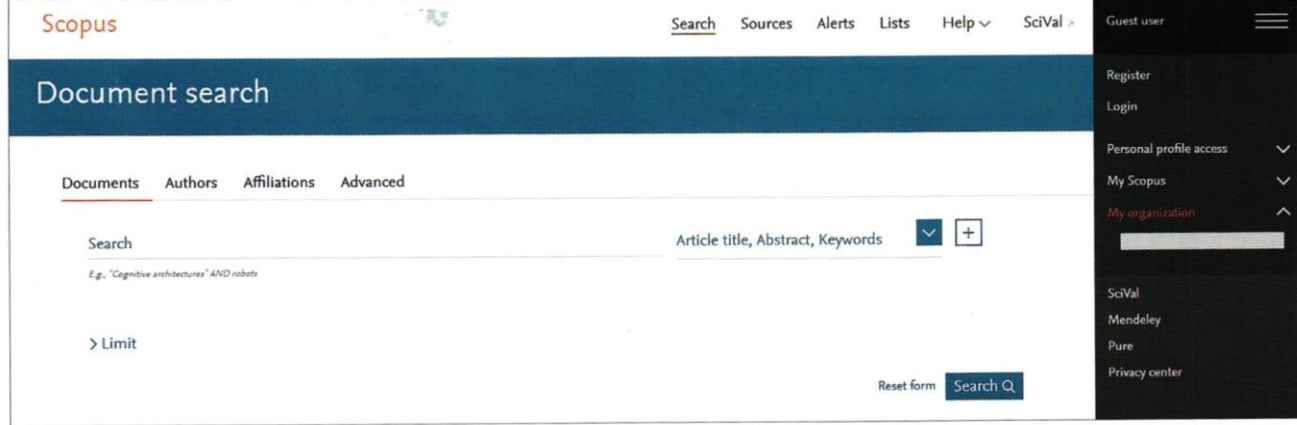
Step 1

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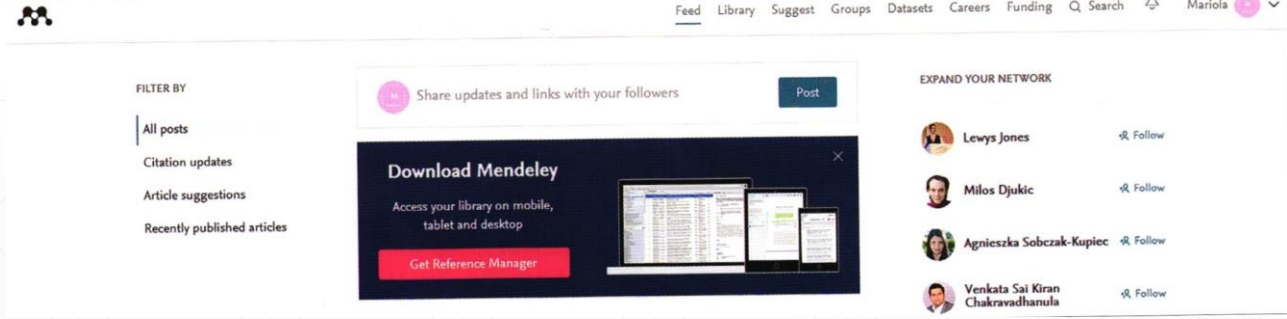
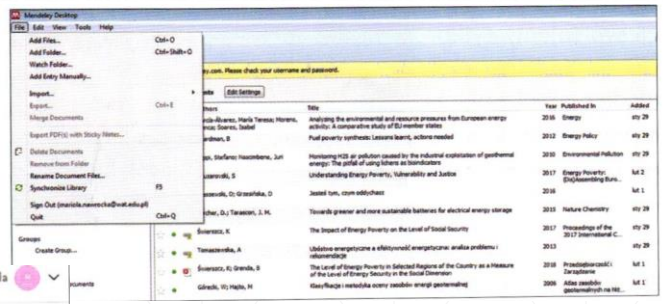
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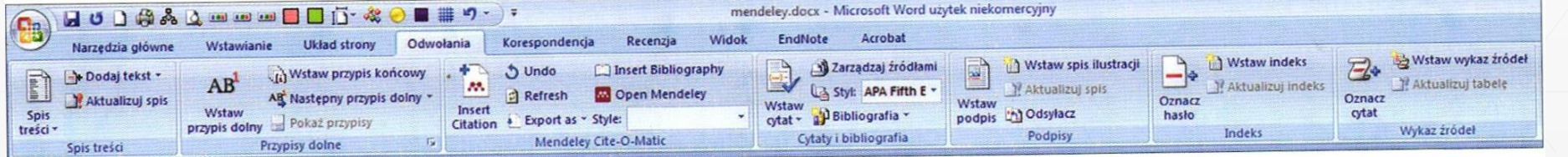
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Praca z menadżerami jest intuicyjna. Przez współpracę z edytorem pozwalają one na łatwy i szybki sposób tworzyć oraz formatować style bibliografii, dostosowywać je do wymogów danego wydawcy, umożliwiają segregowanie opisów bibliograficznych i umieszczanie ich we własnych folderach



Bibliografia pełni w artykule wiele funkcji:

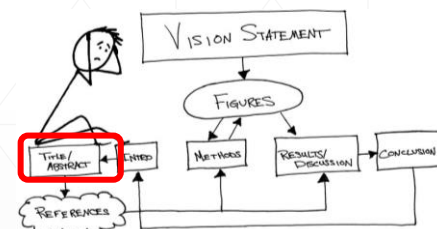
1) Umożliwia czytelnikowi pracy uzyskanie bardziej szczegółowych informacji na temat rozwiązań uprzednio opublikowanych. Na przykład pisząc "The device was fabricated using a standard method" powinno się odwołać do bibliografii zawierającej te metody [aa], [bb – dd]. Jednym z częstszych błędów jest odnoszenie się do prac które nie zawierają wskazanej informacji, tym samym kieruje się czytelnika chcącego zgłębić zagadnienie do tzw. „a virtual rabbit hole”. Innymi słowy to gdzie kogoś odsyłasz powinno być przez Ciebie przeczytane ze zrozumieniem.

2) Wspiera stwierdzenia które nie są powszechnie znane lub mogą być kontrowersyjne. Na przykład: *Previous work has shown that vanilla is better than chocolate*. Tutaj powinieneś dać pozycje bibliograficzną. Często, jest kilka pozycji bibliograficznych, których wybór należy do ciebie, np. [1, 2, 4] lub [1-3] ale NIGDY [1-15]! !

3) Rozpoznawczą innych pracujących w danym zagadnieniu, zarówno tych którzy byli przed tobą i dali bazowe prace w rozpatrywanym zagadnieniu jak i tych którzy prowadzą podobne prace. Wybór tych prac powinien być bardzo sumienny. Unikaj nawyku cytowania tego samego zestawu prac od tej samej grupy. Nowe artykuły pojawiają się codziennie, dlatego musisz mieć pewność, iż twe cytacje włączają zarówno prace fundamentalne jak i najnowsze osiągnięcia.

9. Write the Abstract (Napisz ESENCJALNE streszczenie)

Streszczenie jest kamieniem milowych sprzedaży Twego artykułu. Większość streszczeń ma 150–300 słów, co przekłada się na około 10–20 zdań. Jako świetna reklama, powinno opisać ważność zagadnienia, wyzwania do których adresowane są badania, jak twe badania rozwiązują te wyzwania oraz ich potencjalne przyszłe zastosowania – użyteczność w prowadzonych pracach. Powinieneś podać w nim kluczowe parametry ilościowe. Pamiętaj, iż streszczenia, obok tytułów prac i słów kluczowych, są dołączane do elektronicznych baz przeszukujących co wpływa bezpośrednio na cytowalność Twojej pracy.



10. The Title Comes Last (Tytuł pracy pojawia się ZAWSZE na końcu)

Tytuł artykułu MUSI wydobywać istotę artykułu. Jeśli zawarłeś coś interesującego w pracy, to jaka fraza lub słowa kluczowe je określa – inaczej co ktoś chciałby wpisać do elektronicznej bazy np. google by wydobyć tę wiedzę? Upewnij się że te słowa są włączone do tytułu Twojego artykułu.

1 Article

2 Ambient refractive-index measurement with 3 simultaneous temperature monitoring based on a 4 dual-resonance long-period grating inside a fiber 5 loop mirror structure

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13 Received: date; Accepted: date; Published: date

14 **Abstract:** In this work we report the experimental results on optimizing the optical structure for
15 ambient refractive index measuring with temperature changes monitoring. The presented optical
16 structure is based on a dual-resonance long-period grating embedded inside a fiber loop mirror,
17 where the long-period grating acts as the head of the refractive-index sensor, whereas the section of
18 polarization maintaining fiber in the loop mirror ensures suitable temperature sensing. The
19 optimization process comprised tuning of resonance and interferometric peaks by changing the
20 state of polarization of propagating beams. Experimental results establish that the response of the
21 proposed sensor structure is linear and goes in opposite directions: an increase in the ambient
22 refractive index reduces the signal response, whereas a temperature increase produces an increased
23 response. This enables to distinguish between the signals from changes in the refractive index and
24 temperature. Due to the filtering properties of the interferometric structure it is possible to monitor
25 variation in these physical parameters by observing optical power changes instead of wavelength
26 shifts. Hence, the refractive index sensitivity has been established up to 2375.8 dB/RIU in narrow RI
27 range (1.333–1.341 RIU) while temperature sensitivities up to 1.1 dBm/°C in the range of 23–41 °C.
28 The proposed sensor is dedicated to advanced chemical and biological sensor applications.

29 **Keywords:** optical fiber sensor, dual-resonance long-period grating, fiber loop mirror, temperature
30 control, refractive-index sensor.

32 1. Introduction

33 Label-free monitoring of ambient refractive-index (RI) changes based on optical fiber sensing is
34 a significant technology in biological [1], medical [2] and industrial [3] applications. Among the
35 optical fiber configurations already proposed for RI sensing are: surface plasmon interference [4],
36 fiber Bragg gratings [5], long-period gratings (LPGs) [6], Mach-Zehnder interferometers [7] and
37 Fabry-Perot interferometers [8]. These configurations have provided ultra-high sensitivity, however
38 they do not exclude cross-sensitivity derived from interaction with other physical parameters. In
39 order to obtain a pure sensor response to the measured quantity it is essential limiting the cross-
40 sensitivities or controls two or more parameters at the same real time. The simultaneous
41 measurement of several parameters is a well-established technique, and it can be achieved in optical
42 devices by differential modulation [9], cascading [10], or multiplexing of two identical or different
43 optical components [11, 12]. Generally, such structures have been widely demonstrated for strain,

Manuscript ID: sensors-319965

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Dear Editor,

First of all, I would like to sincerely thank the Reviewers for constructive criticisms and valuable
comments of this manuscript, which will contribute to improving the quality of this article. Accordingly,
we agree with the Reviewers suggestions and have made suitable changes in the manuscript, which are
shown as an underlined text. Our responses to the Reviewers all comments are listed below.

Reviewer #1

Regarding English language and style: *Moderate English changes required.*

Answer: All text has been checked regarding English improvements and typos elimination.

Regarding point 1. *Format the figures with the same layout and style. Provide tick marks in both axis.*

Answer: The authors agree with the Reviewer that sufficient care in terms of the Figures formatting
was not taken in the original manuscript. The authors have formatted all the Figures, especially 2-6, as
recommended by the Reviewer.

Regarding point 2. *To obtain the dual-resonance of the transmission spectrum, the LPG was tuned by
etching in hydrofluoric acid:*

- *what was the procedure (material and methods)*

- *what was the final diameter*

- *why no changing the grating period?*

Answer: In this paper, the DRLPG technology is owned by the Photonics Research Center, Université
du Québec en Outaouais, Canada, and is protected by IP rights, therefore no more details may be
disclosed at this time. We can say that the etching process took place under the controlled conditions:
the cladding of the LPG was etched until obtaining the dual-resonance. During this process, the resonant
wavelength was shifted up to the dispersion turning point (DTP). The etching rate for the SiO₂ glass and
applied HF solution has been estimated using the reference samples, to be 30 nm/min. The diameter of
the DRLPG cladding determines the order of the cladding mode to which the fundamental mode will be
coupled, assuming a given range of the refractive index in which a given sensor will be working. The
LPG consists of the periodic refractive index changes in the fiber core and while the cladding is being
etched, the geometry of the fiber core remains unchanged. As an answer to this point we have rewritten
the DRLPG description between lines 126-135.

Regarding point 3. *Units of figure 2 and 3a) and 4 are “dBm”. That means you did not normalized the
LPG output spectrum with the source light? That would mean that some features we see are in fact the
spectrum of the source. This point MUST be clarified.*

Answer: Thank you for this valuable remark. We agree that if not normalized, the DRLPG output can
be somehow influenced by the spectrum of the source used in the experiment. However, we omitted in
the description to mention that in our experiments the source and the OSA are operated using a data
acquisition system in the LabView environment, where the reference spectrum from the source was

actually subtracted from the output signal. In case of the optical spectrum analyzer, the signal analysis is as follows: the signal from the wideband source was measured as “Trace A”, then the signals from the whole setup was measured as “Trace B” and finally, and finally the “Trace C” was observed as a difference between both “Trace B” and “Trace A”, respectively. So we indeed did take into account the light source spectrum, however the “dBm” mentioned in the Figures shows our intention to illustrate the real depth of the dips and notches. It is really important remark and we did correct the information in the lines 121-123. The setup schema (Figure 2) was updated to show the system in the LabView environment.

Regarding point 4. *Figures 3 b) and 4 c) and 5 b) are linear fittings. Those are not very good fitting. A clear explanation must be provided.*

Answer: Figure 3b) represents the influence of the temperature, with linear fitting coefficient equal to 0.978 (corrected value at line 180 regarding the data presented in the Figure 3b), which seem to be a good linearization. The problem exists in the border ranges of the investigated temperature (below 25°C and above 45°C) where flattening of the data is observed. It is probably caused by the properties of the liquid: their evaporating for upper range of temperature as is motioned in lines 185-186, and heat capacity for lower range of temperature which limited hot plate proper operation in room temperature existing in laboratory. It has influenced the data presented at Figure 4c). Regarding the Figure 5b), our results are similar to Chiang C.-C. and Tseng C.-C. (added Ref. [22]). We have added some appropriate comments in the revised paper in the lines 181-185, 215 and 231. We strongly believe that the maximum error of 9% is acceptable for the Reviewer.

Reviewer #2

Regarding point 1. *Although a literature survey was reported by the authors, there are many new long-period fiber grating sensing technique which have been reported recently. The authors should at least acknowledge them, such as packaged long-period fiber grating, ELPPFG, NLPFG ...etc.*

Answer: Thank you for your advice, while preparing the manuscript the authors decided to focus on the techniques which are used for RI measuring. However, the Reviewer is right that the indication of other recently published techniques will increase the value of the manuscript. For this reason, we have acknowledged a new LPG techniques in a form of a sentence in introduction shown in lines 53-60, with additional six references [18-23]. In consequence, the second paragraph of Introduction has been divided for two.

Regarding point 2. *As the paper is presented on the basis of experiments, I suggest the authors made a detailed analysis of several performance factors of the proposed sensing device. These are:*

- *Wavelength dependence*
- *Polarization dependence*
- *Stability and repeatability*

Answer: The main idea of our work has been presented previously as mentioned in the lines 75-77. We have paid close attention to avoid our own plagiarism, therefore some problems widely described previously in the cited references are not mentioned here. Regarding the wavelength dependence analysis, it is discussed in slightly modified lines 142-145 and in Figure 2. The conclusion is that by varying the length of the PM fiber we can match the FLM wavelength characteristic to the DRLPG spacing between the notches. The polarization behavior of the fiber optic interferometer in the Sagnac configuration is well known either for the FOG or the FLM configuration (see for example Jones matrix approach presented in Jaroszewicz [29] or Feng S., Mao Q, et al, Opt. Commun. 277, (2007), 322). For the wideband 3 dB coupler used, the input SOP is negligible but the proper fiber loop action depends on the input SOP at the PM fiber, which is controlled by the PC. This aspect is precisely described in the lines 145-150. Finally, we think that the system stability and repeatability is adequately described by all

presented experimental investigations in respect to: stress influence – lines 161-166, temperature influence (points 3.1 Temperature response, 3.2 Ambient RI response), unique technique for simultaneous ambient RI and temperature measurement – point 3.3. In conclusion, the estimated error, presented at the end of paper, in our opinion is directly influenced by the system repeatability.

Regarding point 3. *The author should added more detail descriptions about fabrication process of “DRLPG”. It is not clear. Such as “laser fluence” “frequency” “beam size” “focus length” “hydrogenating process: pressure? time?” “wet etching process”*

Answer: Thanks for your suggestion, but IP rights to the DRLPG fabrication technology are owned by the Photonics Research Center, Université du Québec en Outaouais, and the details can not be disclosed at this time. However, we have rewritten the DRLPG description in lines 128-135 as an answer to this Reviewer remark.

Regarding point 4. *The illustration of Fig 1 is not sufficient and adequate with your text. I suggest the authors should add detail descriptions about system setup in figure 1. Moreover, is the polarization controller is 2X2? The details of the about “polarization controller” should be descriptions. In fig.1 only shows the schematic setup of sensing system. I suggest the authors should add the real picture of experimental setup and DRLPG sensor.*

Answer: Consequently to our response to Reviewer’s comments in point 2, we have tried to avoid plagiarism in comparison to our previous papers. Due to the fact that the configuration used has been described in detail in our paper shown as Ref. [30], in this paper we present only general remarks about the system operation with reference to [30], mentioned in the Introduction (line 77) as well as in the point 2.2 (line 116). The polarization controller (PC) is a common manual fiber PC (Thorlabs' 3-Paddle PC FPC030), which consists of three fractional wave plates created by looping the fiber around three independent spools. The PC uses bending-induced birefringence to create the independent wave plates to alter the polarization of the transmitted light in the SMF. The paddles are configured to approximate a quarter-wave, half-wave, and quarter-wave plate, and it is common to use the PC for a fiber-optic interferometer in Sagnac configuration. The accurate statement has been added in line 115. Regarding the last Reviewer’s sentences at this point, the real picture of the experimental setup (Figure 2 b) has also been included.

Regarding point 5. *In page 4 line148 “...the groove was attached to a ceramic hot plate, which was current controlled...” I think the temperature variation is large at the hot plate. I suggested that temperature-PID controlled oven (temperature variation within 1°C) should be used to obtain good experimental datum.*

Answer: Thank you very much for this valuable suggestion. Since our tested DRLPG- based sensor is designed to work when immersed in water ($n=1.3333$) and in liquid with a higher refractive index (more than $n=1.3808$), it is required to heat the liquid in which it is placed. For this reason we decided to adopt the groove from which the liquid did not pour out, and the immersing the DRLPG was convenient. After each test, the DRLPG was carefully cleaned by alcohol. Such operation is not possible for proposed temperature-PID controlled oven. Moreover, our approach gives non-directly temperature influence (via water mixture), which thermal capacity limited precisely changes of temperature (below 1°C).

Regarding point 6. *The calibration experiments should be repeated 3 times to show the stability and repeatability in fig 3, 4, 5. I suggest the authors to discuss the deviations of the calibration experiments.*

Answer: Indeed, it is very important to underline the stability and repeatability of the RI and temperature measurement by the DRLPG, PM fiber, as well by the both. We have measured the repeatability of the DRLPG in the fiber loop mirror (FLM) in terms of changing both RI and temperature. When it comes to the wavelength shifting, the errors are estimated to be 0.4 nm and 0.3 nm for RI and temperature changing, respectively. The precision of amplitude dips is estimated to be 0.6 dBm for temperature and 0.4 dBm for RI measurement. This conclusion is added as lines 308 - 310.

Thank you once again for devoting time to give the valuable comments and suggestions. We hope that our answers and corrected text are satisfactory for the Reviewers.