



Ecole Internationale Daniel Chalonge - Hector de Vega

NEWS and Highlights on STERILE NEUTRINOS

June - July 2022

Papers and Online Conference Presentations

- New experimental results confirm anomaly detection and point to sterile neutrino's possibility, *Los Alamos National Laboratory*:

<https://discover.lanl.gov/news/0616-best-experiment-results>

- BEST Results from the Baksan Experiment on Sterile Transitions (BEST):

Phys. Rev. Lett. 128, 232501 (2022)

<https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.128.232501>

- Search for electron-neutrino transitions to sterile states
in the BEST experiment

Phys. Rev. C 105.065502 (2022)

<https://journals.aps.org/prc/abstract/10.1103/PhysRevC.105.065502>

- Search for sterile neutrino oscillations using RENO and NEOS data

Phys. Rev. D 105, L111101 (2022)

<https://journals.aps.org/prd/abstract/10.1103/PhysRevD.105.L111101>

- Statistical significance of the sterile-neutrino hypothesis in the context of reactor and gallium data

[https://link.springer.com/content/pdf/10.1007/JHEP02\(2022\)055.pdf](https://link.springer.com/content/pdf/10.1007/JHEP02(2022)055.pdf)

Search for keV-scale Sterile Neutrinos with first KATRIN Data

<https://arxiv.org/pdf/2207.06337.pdf>

NEUTRINO 2022, The 50th Anniversary

Virtual Seoul Conference

- New results from laboratory keV sterile neutrino searches,

Dark Matter and Cosmology:

Kyle LEACH (Department of Physics, Quantum & Nuclear Engineering Colorado School of Mines), recording and presentation.pdf :

https://indico.kps.or.kr/event/30/contributions/858/attachments/150/324/S3.Sterile%20Neutrino%203_2_Kyle%20Leach.mp4

<https://indico.kps.or.kr/event/30/contributions/858/attachments/150/323/Kyle%20Leach.pdf>

- Quo Vadis, Sterile Neutrino? -The Current Status of Searches for a 4th Neutrino:

Joachim KOPP (CERN and U. Mainz, DE)

recording and presentation .pdf :

https://indico.kps.or.kr/event/30/contributions/849/attachments/142/307/2.S1_Sterile%20NU%201_01_Joachim%20Kopp.mp4

https://indico.kps.or.kr/event/30/contributions/849/attachments/142/308/Slide_Joachim%20Kopp.pdf

- **Sterile neutrinos and other scenarios**

Carlos Arguelles Delgado (Harvard University)

https://indico.kps.or.kr/event/30/contributions/857/attachments/149/321/S3.Sterile%20Neutrino%203_1_Carlos.mp4

<https://indico.kps.or.kr/event/30/contributions/857/attachments/149/322/Carlos-Arguelles%20Delgado.pdf>

- **Prospects for new eV-scale sterile neutrino searches**

Josh Spitz (U. Michigan) and **Daniel Winklehner** (MIT)

https://indico.kps.or.kr/event/30/contributions/859/attachments/151/325/S3.Sterile%20Neutrino%203_3_Daniel%20%26%20Joshua.mp4

<https://indico.kps.or.kr/event/30/contributions/859/attachments/151/369/Joshua%20Spitz%2C%20Daniel%20Winklener.pdf>

- **The BEST Experiment**

Steve Elliott (Los Alamos National Laboratory)

https://indico.kps.or.kr/event/30/contributions/856/attachments/148/320/S2.Sterile%20Neutrino%202_4.Steve%20Elliott.mp4

<https://indico.kps.or.kr/event/30/contributions/856/attachments/148/319/Steve%20Elliott.pdf>

- KATRIN new Results

Thierry Lasserre (CEA, Irfu, Saclay)

https://indico.kps.or.kr/event/30/contributions/875/attachments/167/357/3.S8_Neutrino%20mass_02_Thierry%20Lasserre.mp4

<https://indico.kps.or.kr/event/30/contributions/875/attachments/167/358/Thierry%20Lasserre.pdf>

- Summary / Experimental Outlook

Yifang Wang (Institute of High Energy Physics, CAS, Beijing)

https://indico.kps.or.kr/event/30/contributions/926/attachments/259/515/5.Closing%20Session_02_Yifang%20Wang.mp4

<https://indico.kps.or.kr/event/30/contributions/926/attachments/259/516/Yifang%20Wang.pdf>

More NEUTRINO 2022 50th Anniversary Presentations:

<https://indico.kps.or.kr/event/30/timetable/#all.detailed>

CALL FOR PAPERS

Special Issue keV Warm Dark Matter in Tribute to Hector de Vega

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https://www.mdpi.com/journal/universe/special_issues/WomenAstroCosmo

Et ce n'est pas tout (citation d'Henri Poincaré)

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<https://chalonge-devega.fr/Programme2022.html>

<https://chalonge-devega.fr/Programme2021.html>

<https://chalonge-devega.fr/HdeV.html>

<https://chalonge-devega.fr>

<https://chalonge-devega.fr/sanchez/>

https://www.researchgate.net/profile/Norma_Sanchez12