The Conference Assembly Tool for JACoW conferences

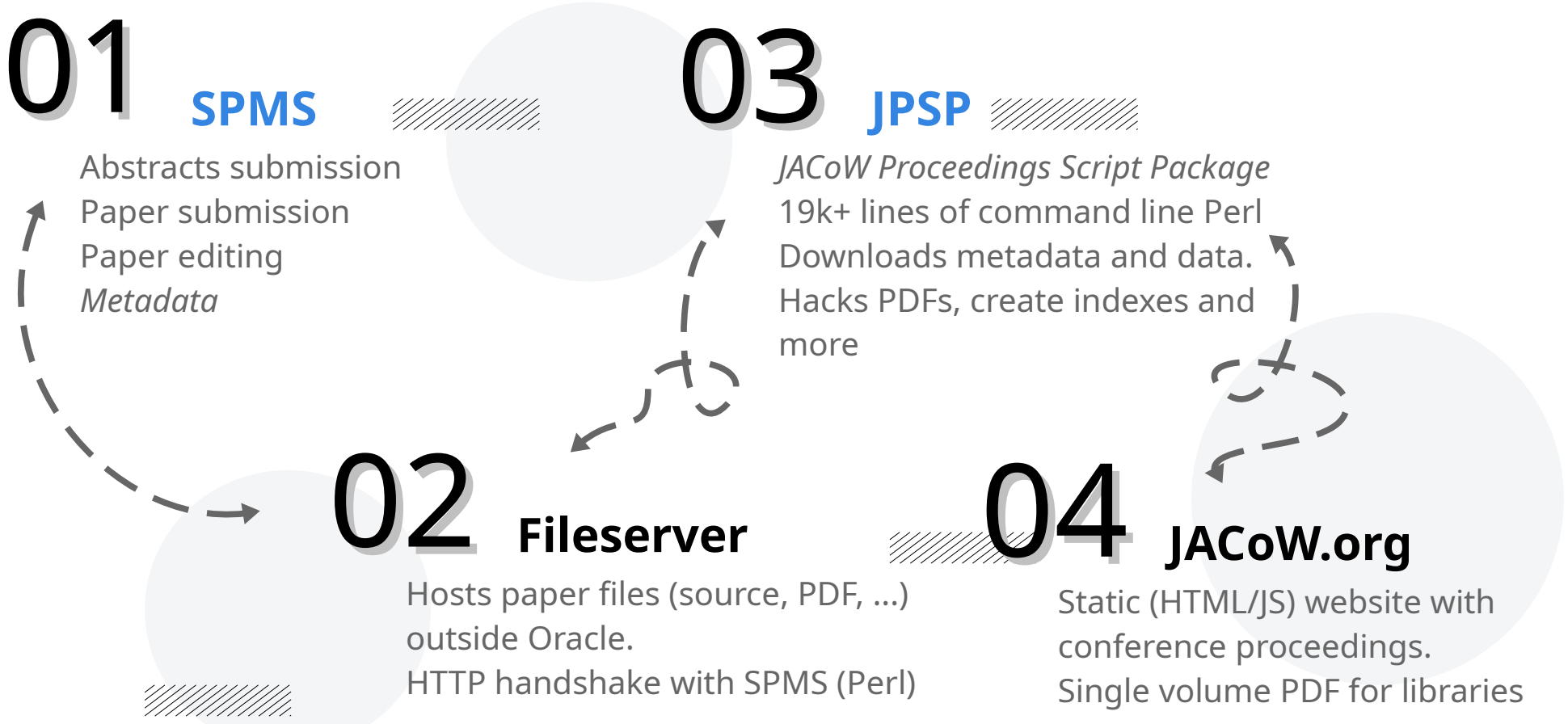
Ivan Andrian – Elettra, IPAC'23 & JACoW

Indico Workshop 3.5 - CERN
21 March 2023

JACoW Conferences

- **Target**: proceedings
- **Needs**: manage scientific programme, edit papers, create final "*volume*"
- **Tools**: SPMS – Scientific Programme Management System
  - since eary 2000s
  - Oracle PL/SQL
  - Now unmaintaned

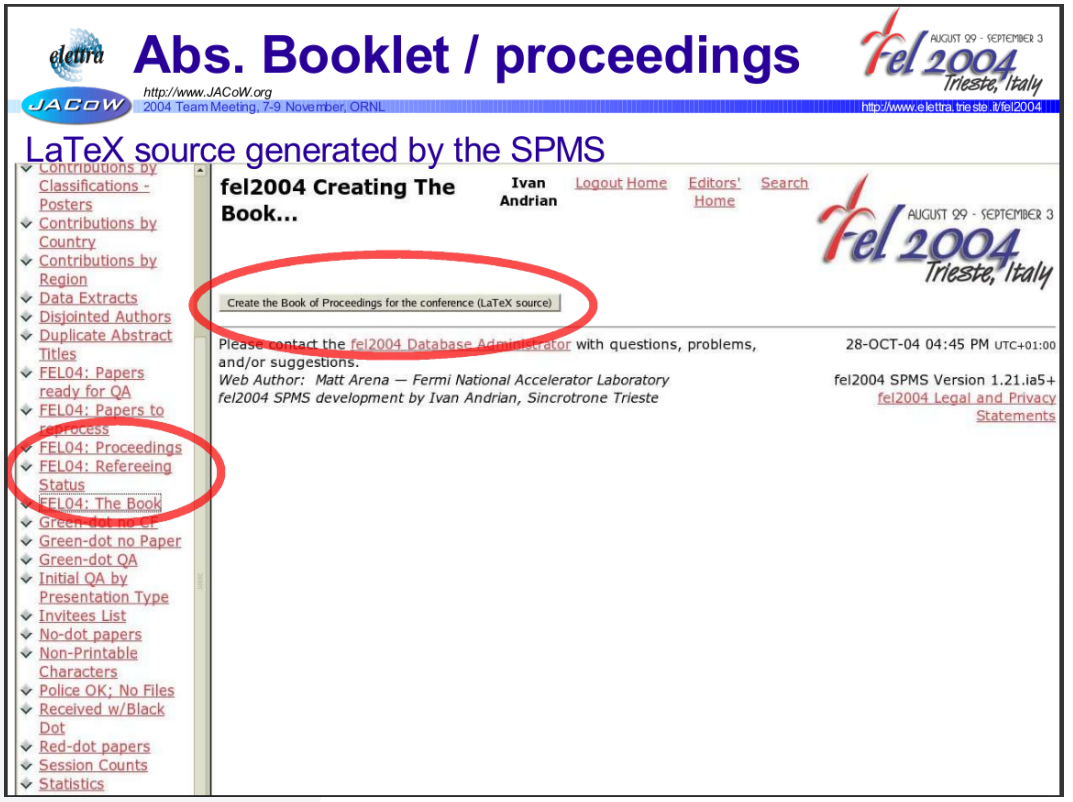
Illustrations by Pixeltrue on icons8


01
SPMS
Abstracts submission
Paper submission
Paper editing
Metadata
03
JPSP
JACoW Proceedings Script Package
19k+ lines of command line Perl
Downloads metadata and data.
Hacks PDFs, create indexes and more
02
Fileserver
Hosts paper files (source, PDF, ...) outside Oracle.
HTTP handshake with SPMS (Perl)
04
JACoW.org
Static (HTML/JS) website with conference proceedings.
Single volume PDF for libraries

JPSP-NG

for the future

> Server-side one-button idea explored ~20 yrs ago within SPMS
>
> Can we do the same for/in Indico?



CAT

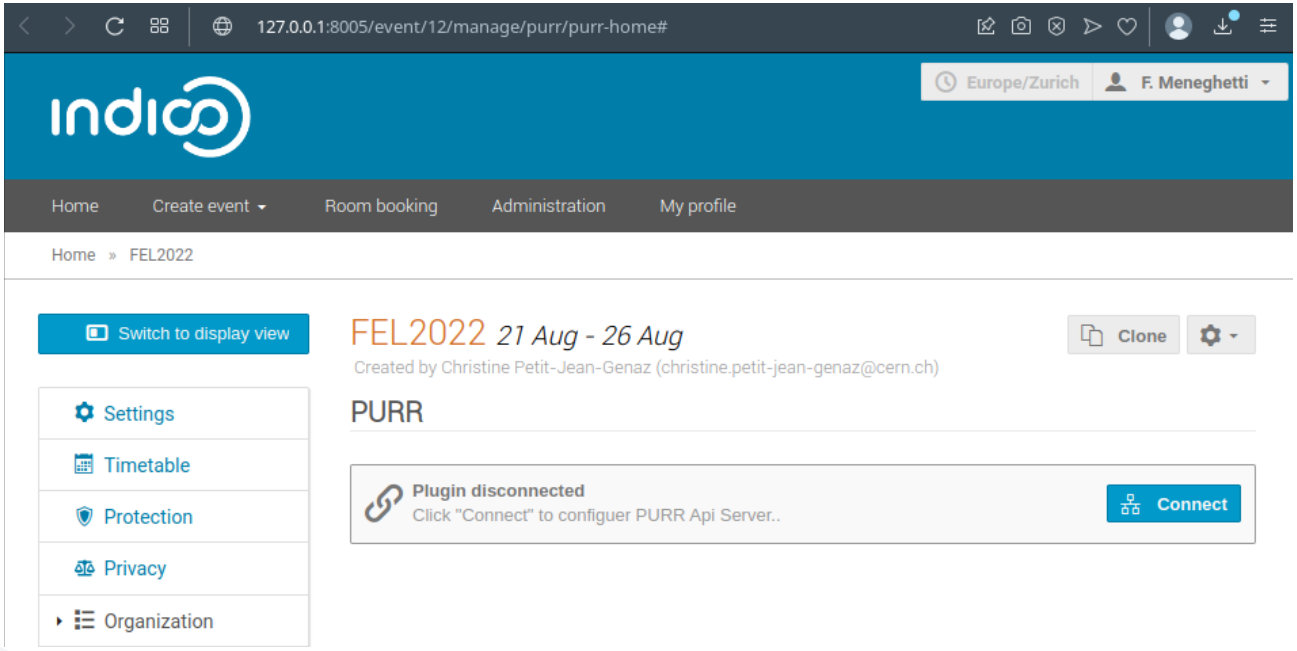
PURR

Proceedings Utility Running Remotely

MEOW

Machine Editor for cOnferences Website

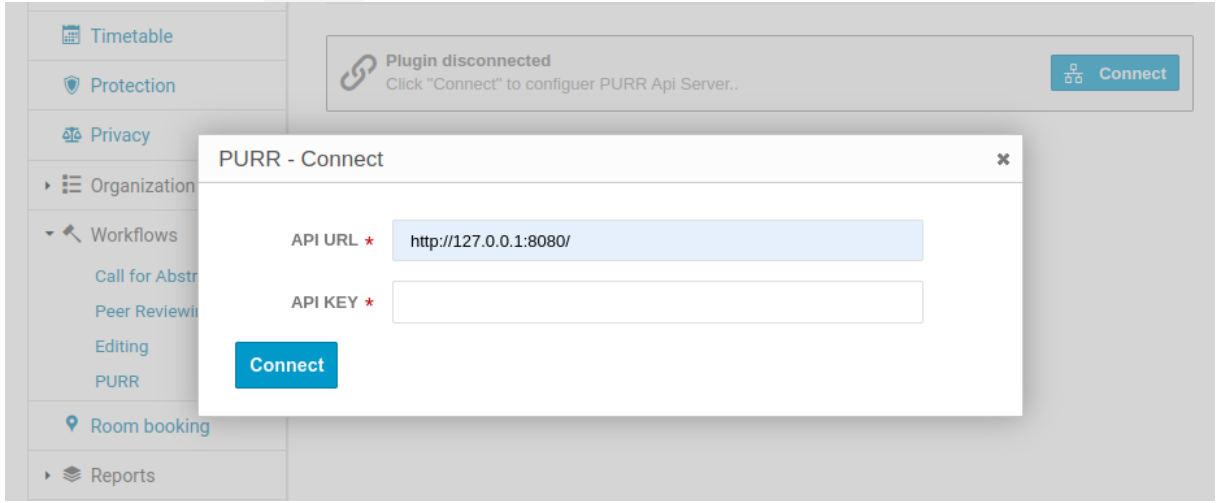
Conference Assembly Tool

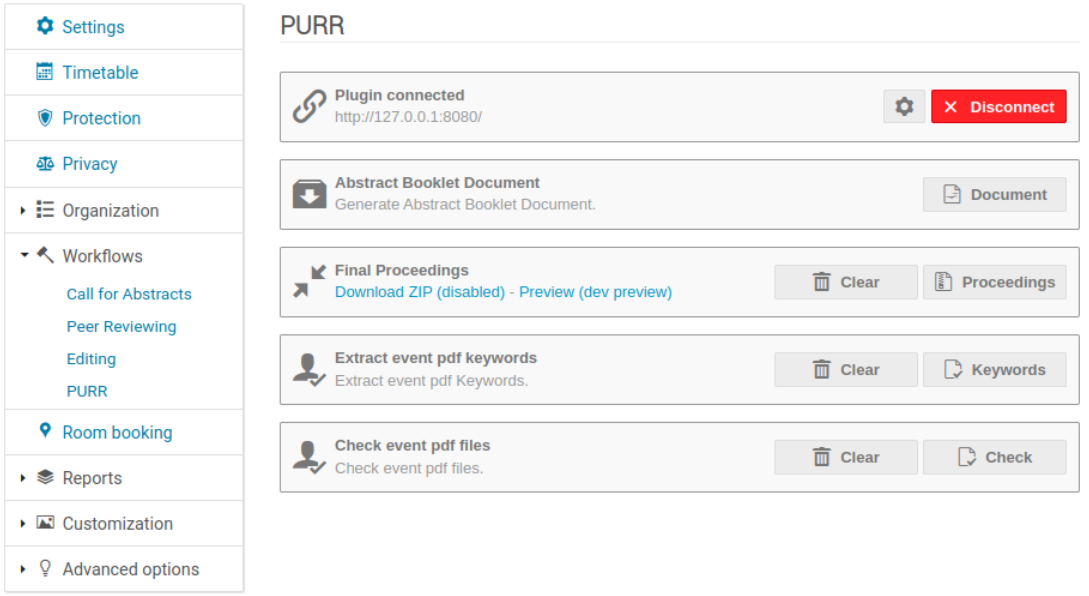


PURR is an Indico plugin to be configured towards an external webapp (MEOW).
Exports custom APIs and uses MEOW's APIs as well.

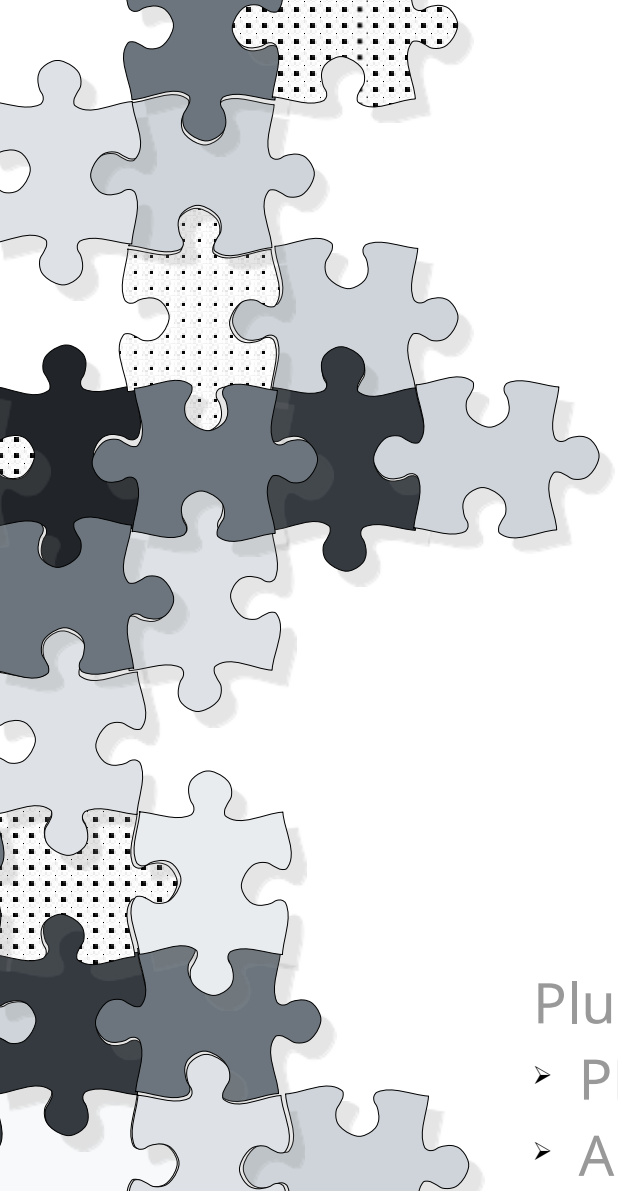
Basic configuration

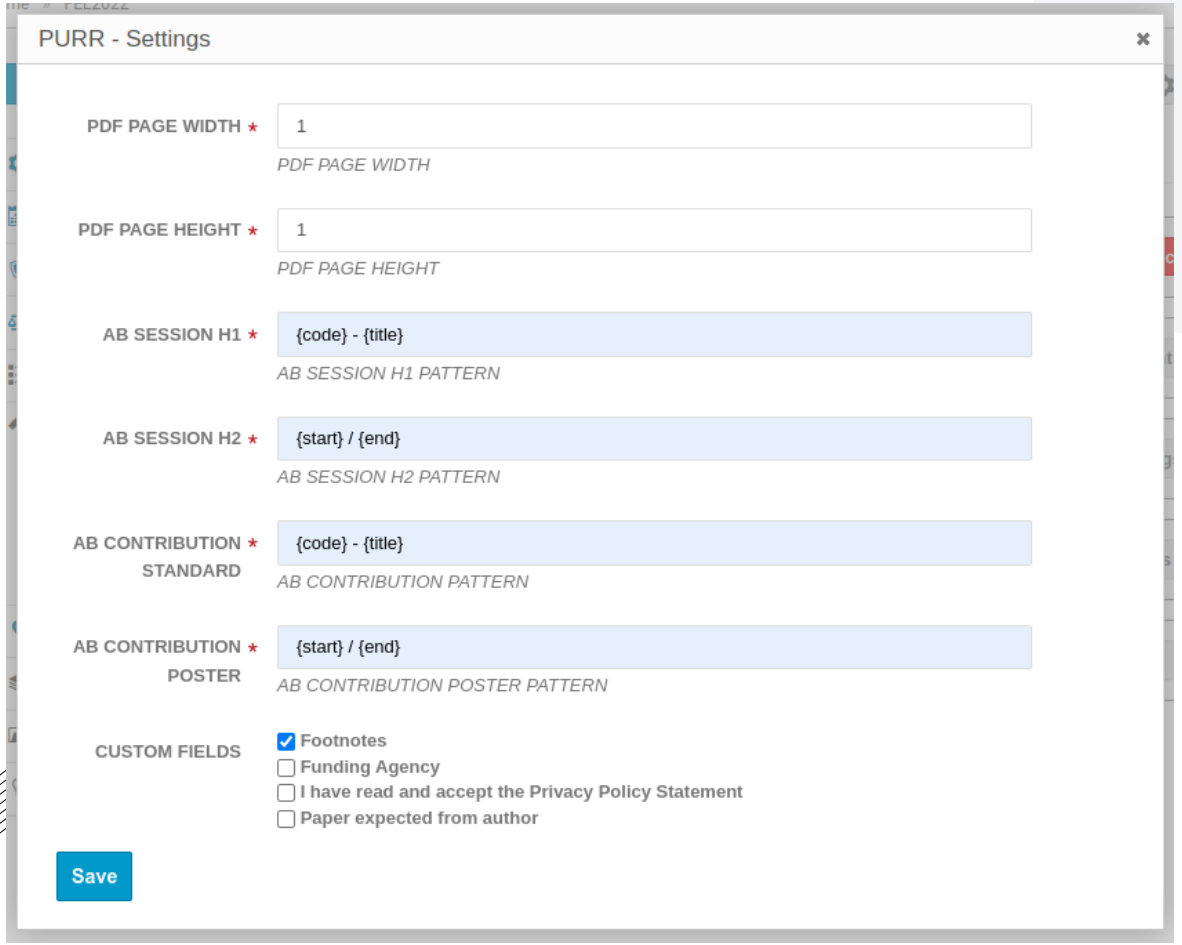
- MEOW URL
- Shared passphrase for authentication





- **Abstract Booklet** generator (ODT with styles)
- **Keywords** extractor from PDFs
- **PDF checks** (size, fonts, etc.)
- **Proceedings** Package creator





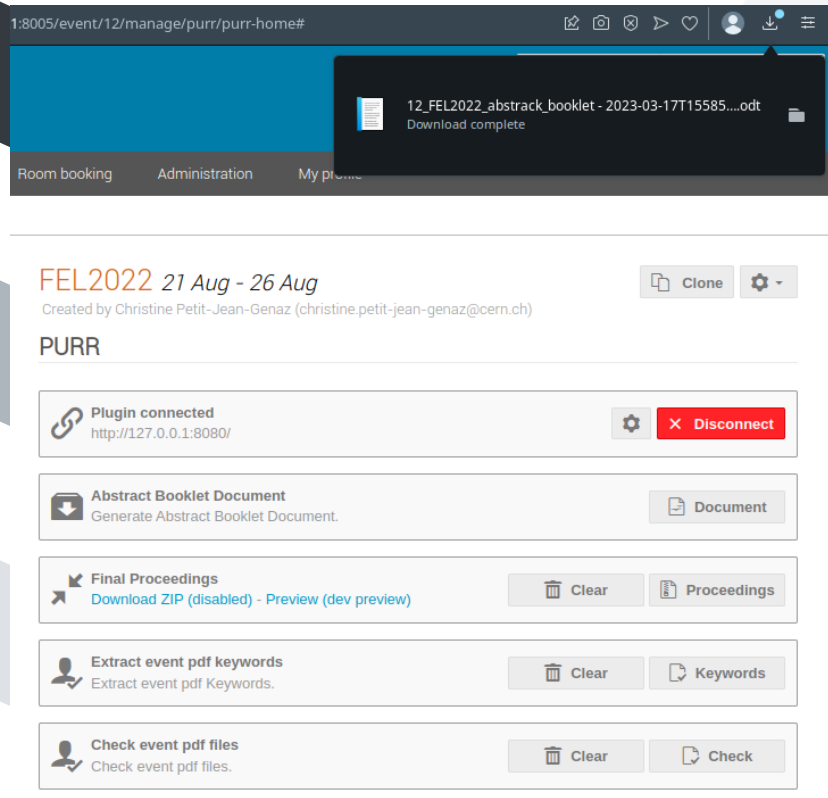
Plugin settings

- PDF checks (size)
- Abstract Book headings and fields

Get all contributions metadata

Build ODT according headings and custom fields settings

Download final ODT



MOA - First lasing

22 August 2022 09:30 / 10:35
Chair: Francesca Curbis (Lund University)

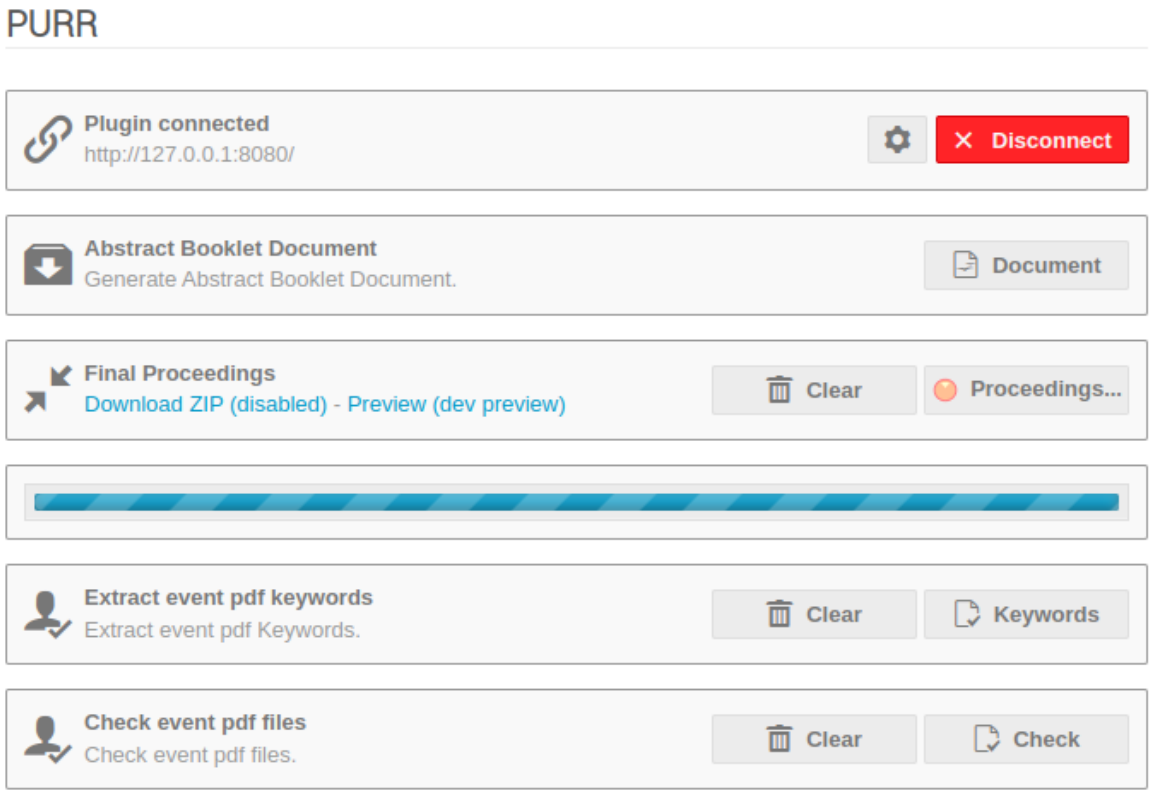
MOA01 / 09:30
The Hard X-ray Self-Seeding system at the European XFEL
Gianluca Geloni (European XFEL GmbH).

This contribution describes, on behalf of the HXRSS team, design, installation, commissioning and operation of the Hard X-Ray Self-Seeding (HXRSS) system at the SASE2 FEL line of the European XFEL. We have reached up to mJ-level self-seeded pulses at 9-10 keV and the tested operational range is 6-13 keV. The setup can work in burst mode, that is following the bunch pattern of the European XFEL. The peculiarities of the European XFEL, that are high-repetition rate and long, tuneable undulators will be discussed, together with the impact of two-chicanes simultaneous seeding on the crystal heat loading. A discussion on possible future developments, including the production of self-seeded radiation at a harmonic of the fundamental, will complement the description of the current performance of the system.

MOA02 / 09:38
First Lasing of Athos, the Soft X-Ray FEL Beamline of SwissFEL
Eduard Prat (Paul Scherrer Institut).

Athos is the soft X-ray FEL beamline of SwissFEL at PSI in Switzerland. Its novel undulator layout consists of short Apple-X modules, capable of providing full polarization control, interleaved with short magnetic chicanes. This flexible configuration allows for many unique operational modes, giving control over FEL properties such as peak power, pulse duration and longitudinal coherence. This contribution presents the first lasing results of Athos, including SASE and some of the special operation modes.

MOA03 / 09:46
Attoseconds at Harmonics at the European XFEL: First Results at SASE3



Final Proceedings

This is the most complex task and the actual goal of this project

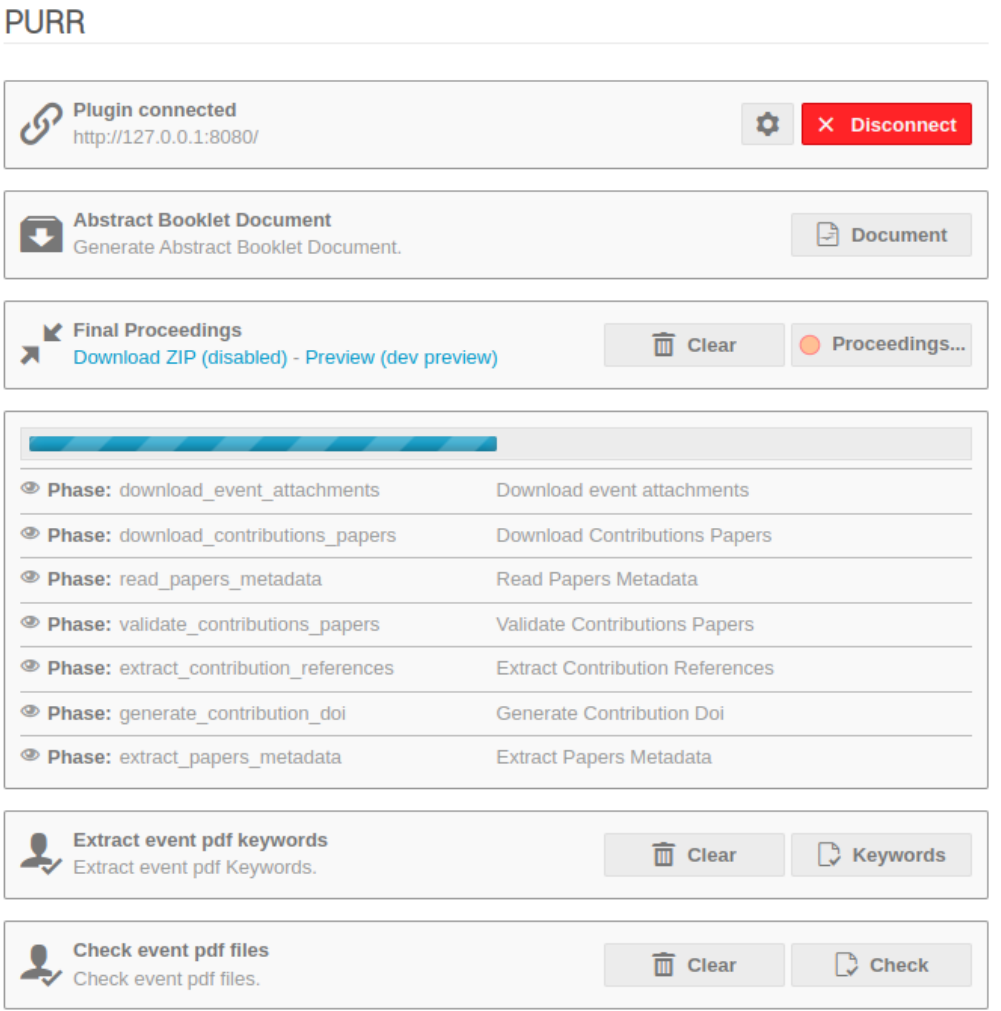
Papers

Slides

Metadata

Static proceedings site created with checked and modified PDFs

- Download ZIP for publication
- Direct preview in new browser tab



JPSP

HTML built-in the Perl code
Changes: CSS, rebuild

FEL2019 Proceedings of the 39th International Free-Electron Laser Conference

The links below lead to detailed listings of the many facets of the conference, including Portable Acrobat Format (PDF) files of all invited and contributed papers, together with slides from oral presentations.

Index of papers by:

- Session
- Classification
- Author
- Institute
- DOI per Institute
- Keyword

- Proceedings Volume [193 MB]
  The complete volume of papers
- Proceedings at a glance [43 MB]
  First page only of all papers with hyperlinks to complete versions
- Conference Guide & Abstract Booklet [6 MB]
  Conference guide and information about the Scientific Program

- Committees
- Group Photo

FEL2019 was hosted by **DESY**, Hamburg and **European XFEL GmbH**, Schenefeld and held at **Universität Hamburg, Germay**

Nov 2019

ISBN 978-3-95450-210-3

Publishing Policies & Ethics

CAT

MarkDown + HTML (HUGO or other SSRs)
Changes: CSS, MarkDown & render, rebuild

FEL2022

Proceedings of the13th International Particle Accelerator Conference

The links below lead to detailed listings of the many facets of the conference, including Portable Acrobat Format (PDF) files of all invited and contributed papers, together with slides from oral presentations.

- Session
- Classification
- Author
- Institute
- DOI per Institute
- Keyword

- **FEL2022 Proceedings Volume** (242MB) *The complete volume of papers*
- **FEL2022 Proceedings at a glance** (31MB) *First page only of all papers with hyperlinks to complete versions*
- **FEL2022 - Committees** (0MB)
- **FEL2022 - Preface** (0MB)
- **FEL2022 - Student Poster Session Guide** (1MB) *Information about the Student Poster Session*
- **FEL2022 - Particle Accelerator Projects and Upgrades Booklet** (1MB) *The complete volume of papers*
- **FEL2022 - Guide Book** (58MB) *Venue, Awards, Scientific Program, and Events*

FEL2022 was organized by the Synchrotron Light Research Institute (SLRI) in Nakhon Ratchasima, Thailand and hosted at the IMPACT Exhibition and Convention Center in Trieste, Italy ∴ 12-17 June 2022

Editorial Board: Frank Zimmermann (CERN), Hitoshi Tanaka (RIKEN), Porntip Sudmuang (SLRI), Prapong Klysubun (SLRI), Prapaiwan Sunwong (SLRI), Thakonwat Chanwattana (SLRI), Christine Petit-Jean-Genaz (CERN), Volker RW

JPSP

MOB — Monday - Late Morning (26-Aug-19 12:00—13:00)
Chair: S. Schreiber, DESY, Hamburg, Germany

Paper	Title	Page
~~MOB01~~	**Operation Status and Future Perspective of Warm XFEL**	

- H. Tanaka
  RIKEN SPring-8 Center, Sayo-cho, Sayo-gun, Hyogo, Japan

The world first XFEL facility, LCLS adopted a warm (normal conducting) S-band RF technology to constantly provide high quality electron beams with high energy for generating stable SASE-based XFELs. Following the success of LCLS, SACLA, PAL-XFEL and SwissFEL based on the warm RF technologies of S- or C-bands were constructed and have started their user operations or test experiments via the beam-commissioning phase. These warm XFEL facilities have developed various advanced FEL schemes making high performance XFELs available for user experiments. They have been continuously upgrading the operations for expanding experimental opportunities and potentiality. This talk will overview the current operational status of warm XFEL facilities and present future perspectives compared with cold (super-conducting) XFEL facilities.

Slides MOB01 [19.294 MB]

Export • reference for this paper using ※ *BibTeX*, ※ *LaTeX*, ※ *Text/Word*, ※ *RIS*, ※ *EndNote (xml)*

~~MOB02~~	**Overview on Future Continuous Wave X-Ray Free Electron Lasers**	

- H. Weise
  DESY, Hamburg, Germany

FELs based on superconducting accelerators offer a photon beam time structure being flexible in pulse pattern, with the electron bunch properties tailored to effectively meet user requirements. While DESY's long time operated FLASH facility as well as the in 2017 commissioned European XFEL in the Hamburg region, Germany, are operated in pulsed mode with bunch trains of up to 600 µs and bunch repetition rates of up to 4.5 MHz, new facilities aim for continuous wave (cw) RF operation allowing bunch repetition rates of typically 100 kHz to 1 MHz. The used accelerator modules are still using the so-called TESLA technology. Minor but essential modifications in the accelerating structure design bring the cryogenic load to a reasonable and acceptable level. The upcoming LCLS-II, being under construction at SLAC, U.S., uses so-called Nitrogen doped accelerating structures. The recently started SHINE project at Shanghai, China, will adopt similar ideas. For a possible European XFEL upgrade towards cw, also so-called large grain Niobium is an option. The presentation will give an overview about R&D towards the next future of X-ray FELs. Activities in all three regions will be described.

ex.html

CAT

MOBI3 - 11:50 / 12:15

Microbunching of Relativistic Electron Beams

One of the fundamental facets of microbunching in relativistic electron beams is the potential for generation of coherent radiation at the wavelengths that characterize that periodic longitudinal modulation. This microbunching is an inherent process in the free-electron laser (FEL) mechanism for both single-pass and oscillator configurations. Besides the FEL output, diagnostics of these microbunched electron beams can be performed using coherent optical transition radiation (COTR) and imaging techniques in the former case. In these cases, the COTR from the microbunched portion of the beam in 6-D space generally dominates the images. Other mechanisms include the longitudinal-space-charge-induced microbunching in ultra-bright beams and laser-induced microbunching such as observed in laser wakefield accelerator beams. More recently, we consider the diagnostics of the TESSA** FEL concepts where a seed laser co-propagating with the electron beam through a short modulator and chicane may result in bunching fractions of >10 % leading to COTR enhancements of >22 million. Examples of these past, present, and future investigations will be discussed. **Tapering Enhanced Super-radiant Stimulated Amplification (TESSA)

Alex Lumpkin (Argonne National Laboratory)

- **Slides:** MOBI3.pdf
- **Paper:** MOBI3.pdf
- **DOI:** reference for this paper - https://doi.org/10.18429/JACoW-FEL2022-MOBI3
- **About:** paper received *26 August 2019* - paper accepted *09 September 2019* - issue date *05 November 2019*

- **Export:** reference for this paper using:

BibTeX

```
@unpublished{lumpkin:fel2022-mobi3,author = {A. Lumpkin},title = {Microbunching of Relativistic
```

LaTeX

```
%\cite{Lumpkin:FEL2022-MOBI3}\nbibitem{Lumpkin:FEL2022-MOBI3}\nA. Lumpkin,\textquotedblleft{Mic
```

Text/Word

```
A. Lumpkin, "Microbunching of Relativistic Electron Beams", presented at the FEL2022, Trieste Co
```

RIS

FEL2022 - Session

- **MOX** - Special Session
- **MOA** - First lasing
- **MOB** - FEL Prize
- **MOC** - FEL Theory
- **MOP** - Monday posters: Coffee & Exhibition
- **MOT** - Tutorial 1: How to expand your research network and write a successful project proposal
- **TUA** - SASE FELs
- **TUB** - Seeded FELs
- **TUC** - FEL Oscillators and IRFELs
- **TU121** - One-to-one meetings with experts in project building 1
- **TUP** - Tuesday posters: Coffee & Exhibition
- **WEA** - Electron sources
- **WEB** - Electron beam dynamics
- **WEC** - Novel acceleration and FEL concepts
- **WE121** - One-to-one meetings with experts in project building 2
- **WEP** - Wednesday posters: Coffee & Exhibition
- **WET** - Tutorial 2: Meeting the editor
- **THA** - Electron diagnostics, timing, synchronization & controls
- **THB** - Photon beamline instrumentation & undulators
- **FRA** - User experiments
- **FRB** - End-to-end experiments (machine driven)

FEL2022 - Classification [12]

First lasing
FEL Theory
SASE FEL
Seeded FEL
FEL oscillators & IR-FEL
Electron sources
Electron beam dynamics
Novel acceleration and FEL concepts
Electron diagnostics, timing, synchronization & controls
Photon beamline instrumentation & undulators
User experiments
End-to-end experiments (machine driven)

FEL2022 - Author [782]

- **A. Fahim Habib** (University of Strathclyde)
- **Adam Hewitt** (University of Strathclyde)
- **Adnan Haj Yahya** (Ariel University Center of Samaria)
- **Adrian Cavalieri** (Paul Scherrer Institut)
- **Adrian Cross** (University of Strathclyde and Cockcroft Institute)
- **Agostino Marinelli** (SLAC National Accelerator Laboratory)
- **Aharon Friedman** (Ariel University)
- **Akinobu Niozu** (Hiroshima University)
- **Alan Fisher** (University of California, Los Angeles)
- **Alan Todd** (AMMTodd Consulting)
- **Alberto Bacci** (Istituto Nazionale di Fisica Nucleare)
- **Alberto Lutman** (SLAC National Accelerator Laboratory)
- **Alberto Petralia** (ENEA)
- **Alberto Petralia** (ENEA Fusion and Technology for Nuclear Safety and Security Department)
- **Alberto Petralia** (ENEA Fusion and Technology for Nuclear Safety and Security Department (FSN))
- **Alberto Petralia** (ENEA-Frascati)
- **Alberto Petralia** (Ente per le Nuove Tecnologie, l'Energie e l'Ambiente)
- **Alberto Simoncig** (Elettra-Sincrotrone Trieste S.C.p.A.)
- **Alessandro Cianchi** (Università di Roma II Tor Vergata)
- **Alessandro Curcio** (Centro de Láseres Pulsados Ultracortos Ultraintensos, Salamanca, Spain)
- **Alessandro Gessini** (Elettra-Sincrotrone Trieste S.C.p.A.)
- **Alex Dickson** (University of Strathclyde)
- **Alex Lumpkin** (Argonne National Laboratory)
- **Alex Lumpkin** (Fermi National Accelerator Laboratory)
- **Alex Murokh** (RadiaBeam)
- **Alex Murokh** (RadiaBeam Technologies)
- **Alexander Brynes** (Elettra-Sincrotrone Trieste S.C.p.A.)
- **Alexander Debus** (Helmholtz-Zentrum Dresden-Rossendorf)
- **Alexander Demidovich** (Elettra-Sincrotrone Trieste S.C.p.A.)
- **Alexander Koehler** (Helmholtz-Zentrum Dresden-Rossendorf)
- **Alexander Malyzhenkov** (Los Alamos National Laboratory)
- **Alexander Malyzhenkov** (Paul Scherrer Institut)
- **Alexander Valishev** (Fermi National Accelerator Laboratory)

FEL2022 - Institute [169]

- AMMTodd Consulting
- Argonne National Laboratory
- Ariel University
- Ariel University Center of Samaria
- Bivio Software Inc.
- Brookhaven National Laboratory
- Central Laser Facility, STFC Rutherford Appleton Laboratory
- Centro de Láseres Pulsados Ultracortos Ultraintensos, Salamanca, Spain
- CFEL, DESY
- CIC nanoGUNE BRTA
- CNR-INO and ELI-NP
- CNR-IOM, Istituto Officina dei Materiali
- Colorado School of Mines
- Cracow University of Technology
- Department of Microelectronics and Nanoelectronics, Faculty of Information and Communication Technology, University of Malta, Msida MSD2080, Malta
- Department of Physics, Duke University; Triangle Universities Nuclear Laboratory
- Department of Physics, National Central University
- Department of Physics, SUPA, University of Strathclyde
- DESY
- Deutsches Elektronen-Synchrotron
- Deutsches Elektronen-Synchrotron DESY
- Deutsches Elektronen-Synchrotron DESY at Zeuthen
- Duke University
- Elettra
- Elettra Sincortrone Trieste (retired)
- Elettra Sincrotrone Trieste
- Elettra Sincrotrone Trieste and Istituto Nazionale di Fisica Nucleare
- Elettra-Sincrotrone Trieste S.C.p.A.
- Elettra-Sincrotrone Trieste S.C.p.A. and CNR-ISM
- Elettra-Sincrotrone Trieste S.C.p.A. and University of Nova Gorica
- Elettra-Sincrotrone Trieste S.C.p.A. and University of Trieste
- ENEA

FEL2022 - DOI per Institute [169]

- AMMTodd Consulting
- Argonne National Laboratory
- Ariel University
- Ariel University Center of Samaria
- Bivio Software Inc.
- Brookhaven National Laboratory
- Central Laser Facility, STFC Rutherford Appleton Laboratory
- Centro de Láseres Pulsados Ultracortos Ultraintensos, Salamanca, Spain
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- CIC nanoGUNE BRTA
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- DESY
- Deutsches Elektronen-Synchrotron
- Deutsches Elektronen-Synchrotron DESY
- Deutsches Elektronen-Synchrotron DESY at Zeuthen
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- Elettra-Sincrotrone Trieste S.C.p.A. and University of Trieste
- ENEA

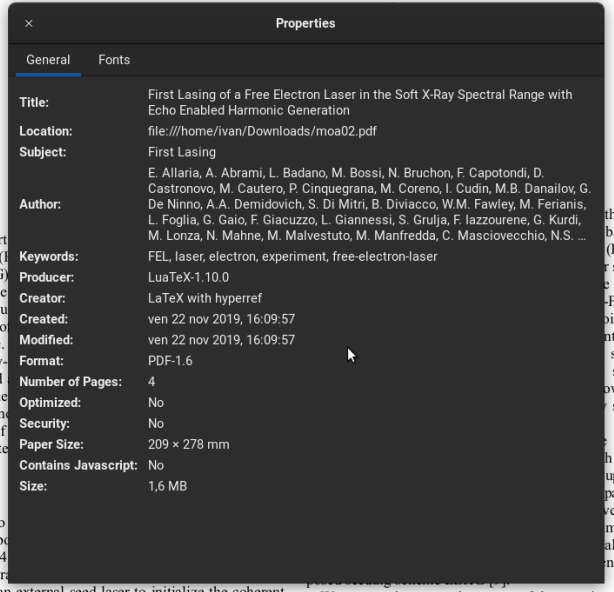
FEL2022 - Keyword 55

- **acceleration**
- **alignment**
- **betatron**
- **booster**
- **bunching**
- **cathode**
- **cavity**
- **collimation**
- **controls**
- **coupling**
- **cryogenics**
- **diagnostics**
- **dipole**
- **distributed**
- **electron**
- **electronics**
- **emittance**
- **experiment**
- **extraction**
- **feedback**
- **FEL**
- **flattop**
- **focusing**
- **gun**
- **HOM**
- **impedance**
- **injection**
- **insertion**
- **interface**
- **klystron**
- **laser**
- **lattice**
- **linac**

ISBN: 978-3-95450-210-3 doi:10.18429/JACoW-FEL2019-MOA02

FIRST LASING OF A FREE ELECTRON LASER IN THE SOFT X-RAY SPECTRAL RANGE WITH ECHO ENABLED HARMONIC GENERATION

E. Allaria*, A. Abrami, L. Badano, M. Bossi, F. Capotondi, D. Castronovo, M. Cautero, P. Cinquegrana, I. Cudin, M. B. Danailov, A. Demidovich, S. Di Mitri, B. Diviacco, S. Grulja, W.M. Fawley, M. Ferianis, L. Foglia, G. Gaio, F. Giacuzzo, L. Giannessi, F. Iazzourene, G. Kurdi, M. Lonza, N. Mahne, M. Malvestuto, M. Manfredda, C. Masciovecchio, N.S. Mirian, I. Nikolov, G. Penco, E. Principi, L. Raimondi, P. R. Ribic, R. Sauro, C. Scafuri, P. Sigalotti, S. Spampinati, C. Spezzani, L. Sturari, M. Svandrlik, M. Trovo, M. Veronese, D. Vivoda, M. Zaccaria, D. Zangrando, M. Zangrando, Elettra – Sincrotrone Trieste SCpA, Basovizza
D. Garzella, CEA, Gif-sur-Yvette
P. Miotti, CNR-IFN, Padova
M. Coreno, CNR-ISM, Trieste and Elettra – Sincrotrone Trieste SCpA, Basovizza
V. Grattoni, DESY, Hamburg
G. De Ninno, Elettra – Sincrotrone Trieste SCpA, Basovizza and University of Nova Gorica, Nova Gorica
N. Bruchon, Elettra – Sincrotrone Trieste SCpA, Basovizza and University of Trieste, Trieste
T. Tanikawa, EuXFEL, Schenefeld



Abstract

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the use of an external seed laser to initialize the coherent

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We report here on the successful operation of the EEHG FEL at FERMI [10]. We first present the experimental setup pointing out the modifications done to some

* e-mail: enrico.allaria@elettra.eu

ISBN: 978-3-95450-227-1 ISSN: 2673-5490 doi: https://doi.org/10.18429/JACoW-FEL2022-TUP56

NON-LINEAR HARMONICS OF A SEEDED FEL AT THE WATER WINDOW AND BEYOND

G. Penco†, E. Allaria, L. Badano, F. Bencivenga, A. Brynes, C. Callegari, F. Capotondi, A. Caretta, P. Cinquegrana, M.B. Danailov, D. De Angelis, A. Demidovich, S. Di Mitri, L. Foglia, G. Gaio, A. Gessini, L. Giannessi, G. Kurdi, M. Manfredda, M. Malvestuto, C. Masciovecchio, R. Mincigrucci, I. Nikolov, E. Pedersoli, S. Pelli Cresi, E. Principi, P. Rebernik, A. Simoncig, S. Spampinati, C. Spezzani, M. Trovò, M. Zangrando, G. De Ninno
Elettra – Sincrotrone Trieste SCpA, Basovizza, Italy
G. Perosa, F. Sottocorona, Università degli Studi di Trieste, Trieste, Italy
S. Dal Zilio, Istituto Officina dei Materiali, Consiglio Nazionale delle Ricerche, Trieste, Italy
V. Chardonnet, M. Hennes, B. Vodungbo, E. Jal, Sorbonne Université, CNRS, Laboratoire de Chimie Physique-Matière et Rayonnement, France
J. Lüning Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Berlin, Germany
P. Bougiatioti, C. David, B. Roesner, Paul Scherrer Institut, Villigen PSI, Switzerland
M. Sacchi, Institut des NanoSciences de Paris, CNRS, Sorbonne Université, Paris, France and Synchrotron SOLEIL, L'Orme des Merisiers, Saint-Aubin, Gif-sur-Yvette, France
E. Roussel, PhLAM/CERLA, Villeneuve d'Ascq

Abstract

The advent of free electron lasers (FELs) in the soft and hard X-ray spectral region has opened the possibility to probe electron
diluted and co
time resolution
the capabilities
advantage of
provided. FEL
external seed
degree of long
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longitudinal d
covering the
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wavelength.
Moreover, w
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The high d
pulses has bee
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imaging, and
the output radiation has been proven to have also a high degree of longitudinal coherence [1-3] that is of crucial importance for techniques such as linear and nonlinear spectroscopies and coherent control, requiring both phase and wavelength manipulation within a given pulse. In a

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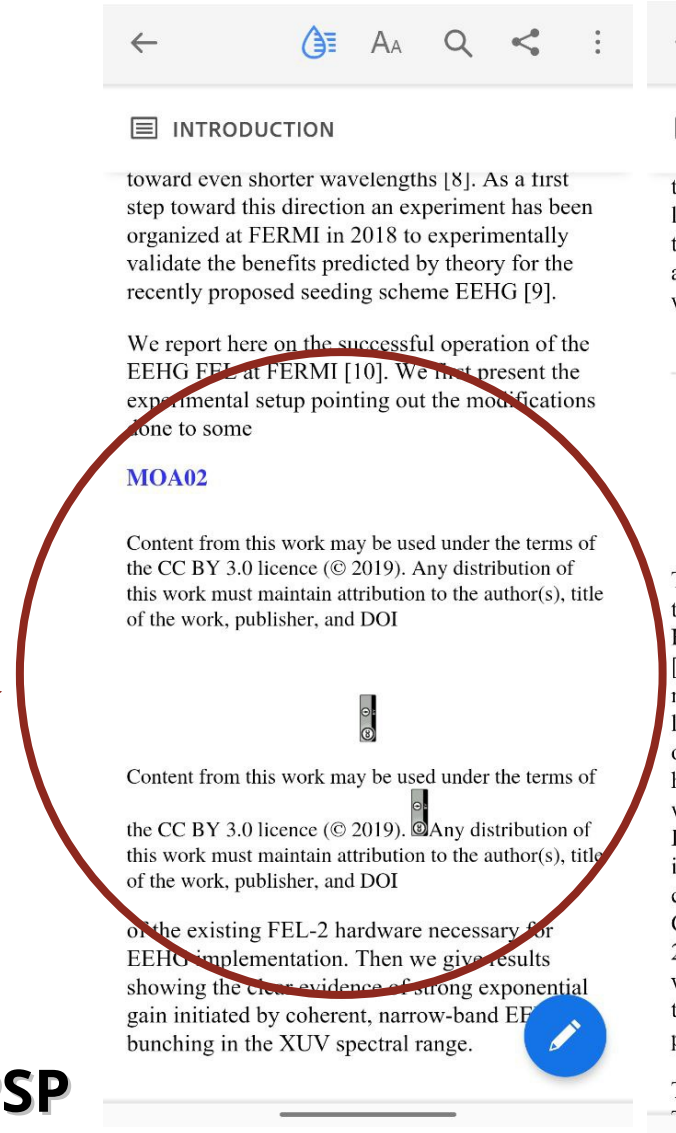
on at 2.6 nm
parameters
used for the experiment allowed only a feeble intensity, comparable to the broadband spontaneous emission coming from the whole electron bunch.

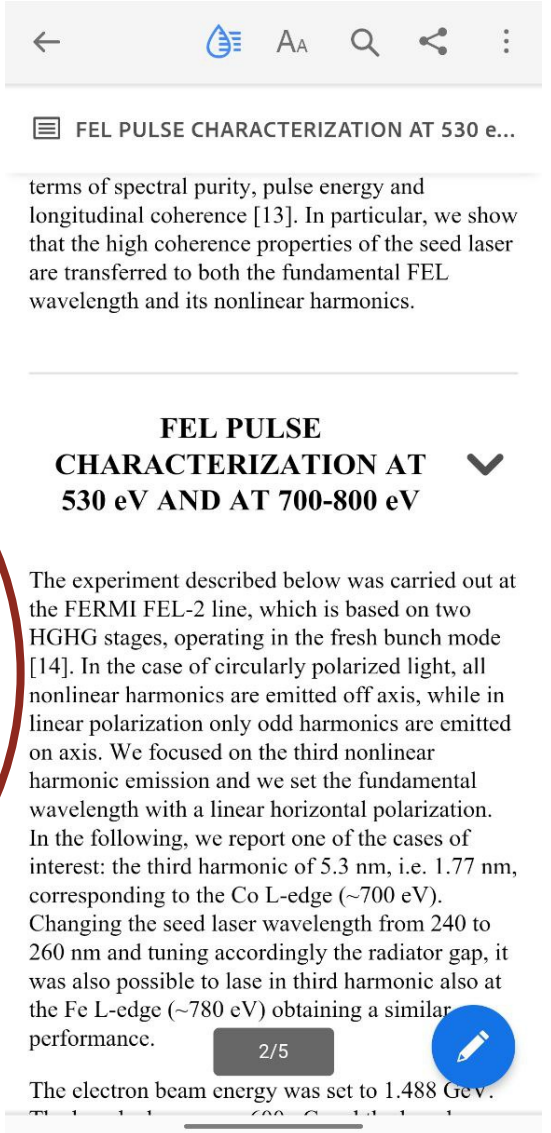
† giuseppe.penco@elettra.eu

Acrobat Liquid Mode (mobile)

Adobe offers this nice reflow cloud-based service for small screens (*responsive*)

wrapper artifacts



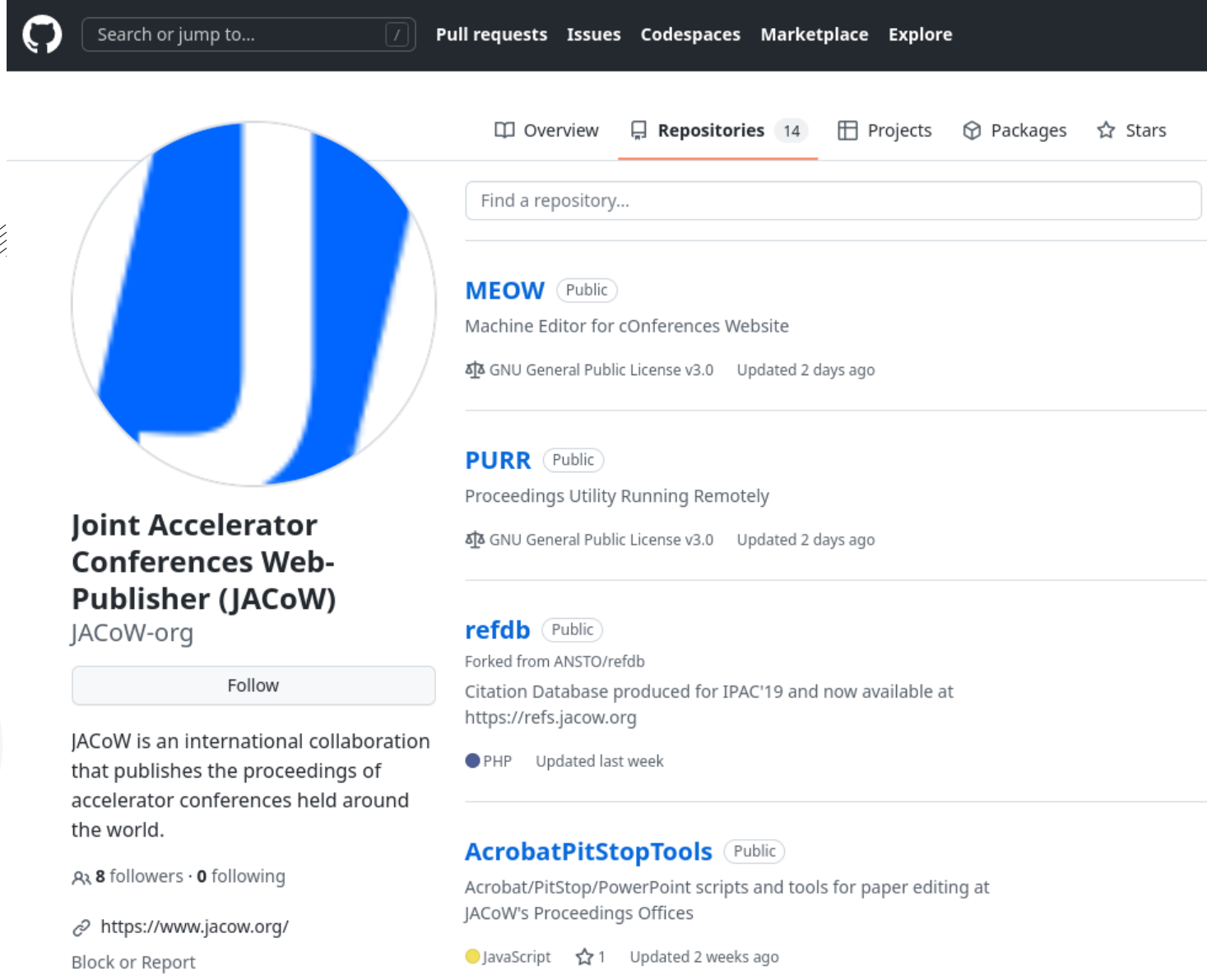


JPSP

CAT

CAT is FOSS

Built for the JACoW community, open to the world



Credits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