The JACoW Collaboration

Volker RW Schaa

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Introduction

JACoW's Role

- To publish member conference's proceedings on the Internet at JACoW.org
- To provide support to member conferences by means of tools for conference organisation, proceedings production and shared software licenses.

The Conference Role with respect to JACoW

- To deliver a complete set of files which are compatible with JACoW's requirements (!) in a WWW-ready format.

which means ...

- The proceedings preparation and production is the responsibility of the conference.
- The JACoW Team will provide help to conferences but this has to be at the cost of the conference and on a ‘good will’ basis.

Open Archive

- JACoW is an Open Archive and our tools provide everything needed to set up and run a conference, process the papers, referee them and prepare the complete set of documents for publication on the web, on paper, on CD/DVD and USB sticks.
- We provide library metadata for Open Access archives (Inspire, SPIRES, OAI).

JACoW Team

JACoW Managers, Previous, Present, Future and Co-opted Representatives of Editorial Boards from each series

Chair	Volker Schaa, GSI
Corodinator	Christine Petit-Jean-Genaz, CERN (IPAC Conferences Coordinator for Europe)
Regional Representative For Asia	Yongbin Leng, SINAP
Regional Representative For Europe	Ivan Andrian, Elettra
Regional Representative For North America	Todd Satogata, JLab
Asian Regional Support Centre Manager	Takashi Kosuge, KEK
European Regional Support Centre Manager	Ronny Billen, CERN
N. America Regional Support Centre Manager	Matt Arena, FNAL
Webmasters	Europe: Ronny Billen, CERN Asia: Yong Ho Chin/Kazuro Furukawa, KEK
SPMS Support And Development	Matt Arena, FNAL (N. America) Ivan Andrian, Elettra (Europe) Tadashi Murakami, KEK (Asia)
Co-opted	John Poole, CERN, Ivan Andrian, Elettra
Beam Instrumentation Workshop	Joe Chew, LBNL ('10) Joe Chew, LBNL, Todd Satogata, JLAB ('12)
COOL	Youjin Yuan, IMPCAS ('09) Maksim Kuzin, BINP ('11)
CYCLOTRONS	Youjin Yuan, IMPCAS ('10)
DIPAC From 2013: IBIC	Jan Chrin, PSI ('09) Michaela Marx, DESY ('11) Iam Martin, Diamond ('13)
ECRIS	Thomas Thuillier, LPSC ('10) Michael Hotchkis, ANSTO ('12)
FEL	Leif Liljeby, MSL ('10) Heping Yan, SINAP ('11)
HIAT	Augusto Lombardi, LNL ('09) Richard Pardo, ANL ('11 or '12)
IBIC (Formerly DIPAC)	Editor at KEK ('12) Ian Martin, DIAMOND ('13)

JACoW Team

ICALEPCS	Aki Yamashita/Tomohiro Matsushita ('09) Marie Robichon, ESRF ('11) Cindy Cassady, LLNL ('13)
ICAP	Joe Chew, LBNL ('09) Dirk Hecht, U. Rostock ('12)
ICFA Advanced Beam Dynamics Workshop (HB)	Jan Chrin, PSI ('10)
ICFA Advanced Beam Dynamics Workshop (ERL)	Karl Smolenski, Cornell ('09) Akihiro Shirakawa ('11)
ICFA Advanced Beam Dynamics Workshop (Physics & Applications Of High Brightness Electron Beams)	James Rosenzweig, UCLA
IPAC	Akihiro Shirakawa, KEK/Christine Petit-Jean-Genaz, CERN ('10) Christine Petit-Jean-Genaz (IPAC'11) Cathy Eyberger/Christine Petit-Jean-Genaz (IPAC'12) Heping Yan, SINAP/Christine Petit-Jean-Genaz, CERN ('13)
LINAC	Hiroyuki Sako, KEK ('10) Ilanit Hoffman Moran, Soreq ('12) Christian Carli, CERN ('14)
NA-PAC	Martin Comyn, TRIUMF ('09) Todd Satogata/Kevin Brown, BNL ('11) Joe Chew, LBNL ('13)
PCaPAC	Carl Finlay, CLS ('10)
RUPAC	Maxim Kuzin, Novosibirsk (permanent)
SRF	Michael Abo-Bakr, BESSY ('09) Maria Power, ANL ('11)

Members & Conferences

- The number of JACoW Collaboration Conferences is now 16
- From 3 series' in 1997, to 16 in 2012:
  - IPAC from 2010 (formerly PAC, EPAC, APAC, the "founders"),
  - NA PAC from 2011 (formerly PAC)
  - COOL, CYCLOTRONS, ECRIS, FEL, HIAT, ICAP, ICALEPCS, ICFA Advanced Beam Dynamics Workshops, LINAC, PCaPAC, RUPAC, SRF
  - IBIC from 2012 (IBIC is formed by European DIPAC and North-American BIW as "International Beam Instrumentation Conference", first IBIC'12 in Japan)

Members & Conferences

- Currently 111 sets of proceedings are published, 13 more than we reported at the last Team Meeting
  - Cyclotrons'10 is nearly ready to be uploaded (latest changes to be discussed with Lina)
  - DIPAC'11 is ready to be uploaded
  - ICALEPCS‘11 will soon follow

Members & Conferences

- At last year's Team Meeting I promised a bottle of Champagne to the 100th conference on JACoW
- And the winner was

  PAC'09

  on 14 Dec 2010

Actions

At the Steering Committee Meeting in San Sebastián
We got an unanimous vote to use the
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Actions (cont)

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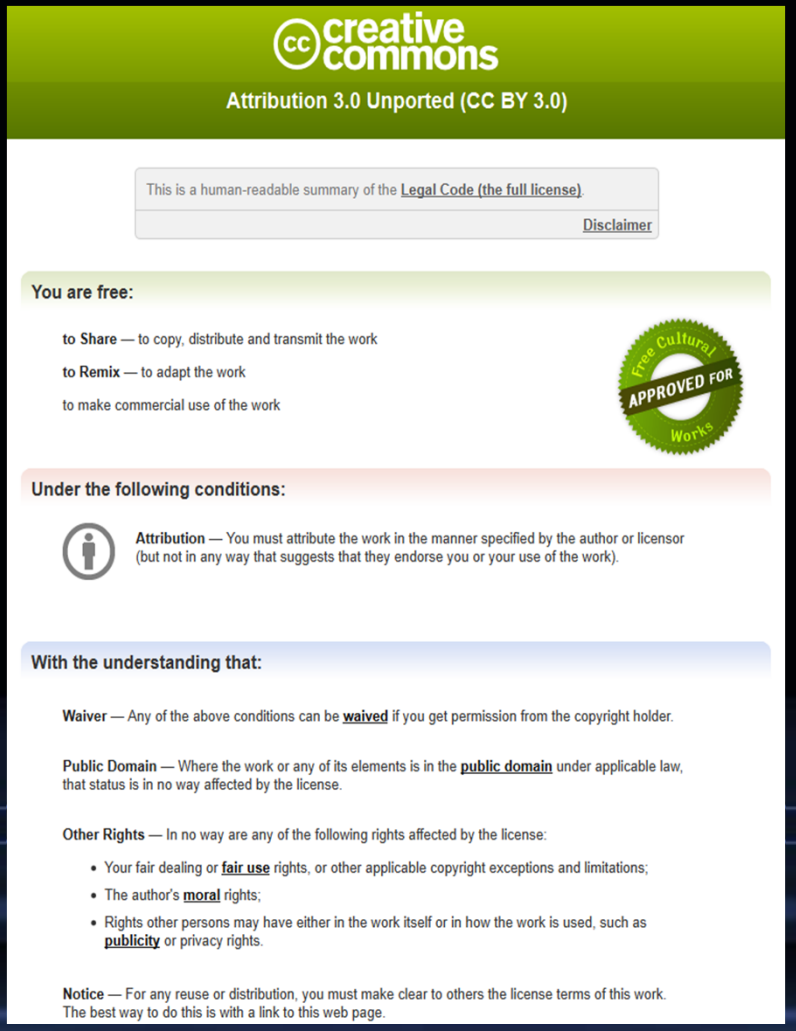

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Actions (cont.)

research, industrial, medical and defense communities for compact X-ray sources capable to match the spectral brightness of the large synchrotron radiation facilities. One promising approach is to develop a compact linac driven Inverse Compton Scattering (ICS) system [1,2]. The ICS process produces X-rays with extremely high peak spectral brightness, while the system footprint allows deployment in hospitals, universities, or on mobile platforms, where the real estate is at a premium. Besides the compact footprint, the important feature of ICS is a favorable scaling towards higher photon energies [3], thus ICS is the technology of choice for applications in the multi-MeV spectral range. RadiaBeam Technologies, in collaboration with Accelerator Test Facility at BNL and Penn State University, is developing a compact, high average power multi-MeV ICS source for active interrogation of special nuclear materials (SNM). A pilot experiment is underway at the ATF to demonstrate average power enhancement of the ICS by using the novel RING laser recirculation technique.

For a head on relativistic electron-photon collisions, the scattered photon wavelength is given by,

$$\lambda_s \approx \frac{\lambda_L}{4\gamma^2}\left(1+\frac{{a_L}^2}{2}+\gamma^2\theta^2\right), \qquad (1)$$

where λ_L is an incoming laser wavelength, γ is a Lorentz factor, θ – scattered angle; and $a_L \cong 0.85\lambda_L[\mu m]{I_{18}}^{1/2}$ is a normalized vector potential (typically kept much below unity to reduce parasitic emission at harmonic wavelengths). As a consequence, the minimum (on-axis)

$$N_\gamma \approx \left[\frac{}{4\pi {r_b}^2}\right]\sigma_{th}, \qquad (2)$$

where r_b is the electron/laser beam rms radius at the focus, σ_{th} the Thomson cross-section, and N_l and N_e are the number of photons and electrons per pulse, respectively. Thus, in order to increase the number of photons produced per interaction, one must increase the density of electrons and laser photons. This requires a high quality, high peak power laser, and a low emittance, high peak current electron beam (produced by a photoinjector electron gun). Due to practical limitations on the density that can be achieved for both beams, increasing the number of photons per interaction beyond around 10^8 is difficult. On the other hand, most of the applications, such as phase-contrast medical imaging, or active interrogation at large stand-off distances require fluxes on the order of 10^{11}-10^{12} cps, which can only be achieved in ICS using a bunch train operation.

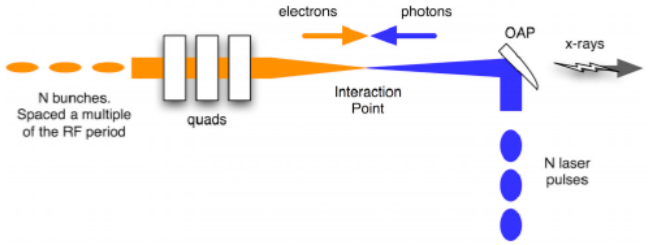

Figure 1: A conceptual diagram of the multi-bunch ICS.

EXPERIMENTAL SETUP

The photoinjector electron beam facilities have already demonstrated a bunch train mode operation [4], where a macropulse composed of up to 100 bunches 10s of ns

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Actions (cont.)

- Request for ISSNs for conference series (International Standard Serial Number is used to identify a print or electronic periodical publication)
- Your online publication has been recorded permanently in the ISSN Register as follows:
- **ISSN 2225-4633**
  Key title: DIPAC
- **Variant title: Workshop on Beam Diagnostics and Instrumentation for Particle Accelerators**

- **ISSNs for all JACoW conference series requested**

Actions (cont.)

- Try to enter **Thomson Reuters (ISI) Web of Knowledge**
- Got contact to London office
- **Letter sent explaining what JACoW is, does and provides**
- **After pre-check in London will go for final check to the US**