

ANNOUNCEMENT AND FIRST CALL FOR PAPERS



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2027 IEEE NUCLEAR AND SPACE RADIATION EFFECTS CONFERENCE

Short Course and Radiation Effects Data Workshop

July 19-23, 2027

Westin Peachtree Plaza

Atlanta, Georgia

You are cordially invited to attend the 2027 IEEE Nuclear and Space Radiation Effects Conference (NSREC). The conference features a technical program consisting of nine technical sessions of contributed papers describing the latest observations in radiation effects, a Short Course on radiation effects issues, a Radiation Effects Data Workshop, and an Industrial Exhibit. The technical program includes oral and poster sessions.

Papers on nuclear and space radiation effects on electronic and photonic materials, devices, circuits, sensors, and systems, as well as semiconductor processing technology and design techniques for producing radiation-tolerant (hardened) devices and integrated circuits, will be presented at this meeting. International participation is strongly encouraged.

We are soliciting papers describing significant new findings in the following areas:

Basic Mechanisms of Radiation Effects in Electronic Materials and Devices

- Single-event charge collection phenomena and mechanisms
- Ionizing radiation effects
- Displacement (non-ionizing) damage
- Radiation transport, energy deposition, and dosimetry
- Materials and device effects
- Processing-related radiation effects

Hardness Assurance for Piece Parts, Systems, and Testing Approaches

- New modeling and testing techniques, guidelines, and methodologies
- Unique radiation exposure facilities, test facility developments, and novel instrument methods
- Dosimetry

Radiation Effects on Electronic and Photonic Devices, Circuits, and Systems

- Single-event effects, total dose, and displacement (non-ionizing) damage
- MOS, bipolar, and advanced technologies
- Wide bandgap semiconductors and power devices
- Systems on a chip, GPUs, FPGAs, processors, and neuromorphic devices
- Methods for hardened design and manufacturing
- Modeling and hardening of devices and circuits
- Cryogenic or high-temperature effects
- Novel device structures, such as MEMS and nanotechnologies
- Emerging modeling and experimental techniques for hardening systems

Space, Atmospheric, and Terrestrial Radiation Effects

- Characterization and modeling of radiation environments
- Space weather events and effects
- Spacecraft surface and internal charging
- Predicting and verifying soft error rates

New Developments of Interest to the Radiation Effects Community

Paper Summary Deadline February 5, 2027

Authors must conform to the following requirements:

1. Prepare a single Adobe Acrobat PDF file consisting of a cover page and an informative two- to four-page summary describing results appropriate for a 12-minute oral or poster presentation. The cover page must provide an abstract no longer than 35 words, the title, name and organization affiliation(s) of the author(s), and organization address(es) (city, state, country). Identify the author presenting the paper and provide a telephone and email address. The summary must include sufficient detail about the work to permit a meaningful technical review. In the summary, clearly indicate (a) the purpose of your work, (b) significant new results with supporting technical material, and (c) how your work advances the state of the art. Show key references to other related work. The summary must be no less than two and no more than four pages in length, including figures, tables, and references. All figures and tables must be large enough to be clearly read. Note that this is more than an abstract, but do not exceed four pages. Watch our NSREC video on how to prepare a strong summary [<https://youtu.be/bbHNPofpmMs?si=qVrrcmqo8ytkl7qQ>].
2. Prepare your summary in single-column or in IEEE Transactions on Nuclear Science (TNS) standard two-column format, using 11 point or greater font size, formatted for either U.S. Standard (8.5 x 11 inch) or A4 (21 x 29.7 cm) page layout, with 1 inch (2.5 cm) page margins.
3. Obtain all corporate, sponsor, and/or government approvals and releases necessary for presenting your paper at an open-attendance international meeting.
4. Summary submission is electronic only, through www.nsrec.com. The submission process consists of entering the paper title, author(s) and affiliation(s), an abstract no longer than 35 words, and uploading the summary. Authors are prompted to state their preference for presentation (oral, poster, or data workshop poster) and for session. Details of the submission process may be found at the NSREC website linked above. The final category of all papers will be determined by the Technical Program Committee, which is responsible for selecting final papers from initial submissions.

**Abstracts must be received by
23:59 (local time) on Friday,
February 5, 2027**

**Detailed submission instructions
will be available after
Tuesday, December 1, 2026**

Visit www.nsrec.com

Papers accepted for oral or poster presentation at the technical program are expected to be submitted for publication in the IEEE TNS (Spring 2028). Selection for this issue will be based on a separate submission of a complete paper. These papers will be subject to the standard full peer review given all papers submitted to the IEEE TNS. Further information will be sent to prospective authors upon acceptance of their NSREC summary. It is not necessary to be an IEEE member to present a paper or attend the NSREC. However, we encourage IEEE and NPSS membership for all NSREC participants.

Radiation Effects Data Workshop

The Radiation Effects Data Workshop is a forum for papers on radiation effects data on electronic devices and systems. Workshop papers are intended to provide radiation response data to scientists and engineers who use electronic devices in a radiation environment and for designers of radiation-hardened systems. Papers describing new simulation techniques validated or data-supported, results, or radiation facilities are also welcomed. The procedure for submitting a summary to the Workshop is identical to the procedure for submitting NSREC summaries. Radiation Effects Data Workshop papers will be published in a Workshop Record and are not candidates for publication in the Conference issue of the *IEEE Transactions on Nuclear Science*.

Atlanta, Georgia, United States

The 2027 NSREC will be held at [The Westin Peachtree Plaza](#) in the heart of downtown Atlanta, Georgia. Known as “The City in the Forest” and the cultural capital of the South, Atlanta is a city defined by history, innovation, and Southern hospitality.

Few cities in the world are easier to reach. Hartsfield-Jackson International Airport is consistently ranked among the most well-connected airports globally, with nonstop flights to destinations across six continents, and links directly to downtown via the city’s MARTA rail system, with a stop just steps from the Westin.

The cradle of the modern civil rights movement and the birthplace of Coca-Cola, Atlanta has left an indelible mark on the national story. The Martin Luther King, Jr. National Historical Park, the National Center for Civil and Human Rights, the World of Coca-Cola, and Centennial Olympic Park, host of the 1996 Games, are all within walking distance of the hotel. The city is also home to more than fifty colleges



and universities including Georgia Tech, Emory University, and the Atlanta University Center, fostering a thriving research ecosystem in aerospace, microelectronics, and defense.

Beyond its landmarks, Atlanta rewards exploration. Walk through a glass tunnel as whale sharks glide overhead at the Georgia Aquarium, the largest in the United States and just blocks from the Westin. Stroll the Atlanta BeltLine, threading through vibrant neighborhoods lined with street art, live music, and outstanding dining. Escape to Piedmont Park for sweeping views of the Midtown skyline above the tree canopy. World-class restaurants, a thriving music scene, and genuine Southern hospitality complete the experience.

We look forward to welcoming you to Atlanta in 2027 for an outstanding technical program in a truly dynamic city [[Atlanta Conven-](#)