

This page presents public CALICE results. There are two types of publications.

- **Papers** are publications published in (or submitted to) peer-reviewed journals. Those publications with a tag CALICE-PUB-YYYY-NNN went through a review process by the CALICE Collaboration. Papers without this tag are publications, mainly technical papers, by the corresponding projects that didn't went through a formal approval process by CALICE.
- **Analysis Notes** have been approved for public presentation as "CALICE Preliminary". They represent the current best knowledge of CALICE on a given topic.

"Associated CALICE Analysis Notes" that can be found in the menus below the reviewed papers contain preliminary results obtained in analyses towards a given paper that have been superseded by the paper. Results in there (i.e. in the "Associated CALICE Analysis Notes") must only be used and cited in coordination with the Speakers Bureau Chair and the corresponding author or the corresponding project leader. A complete list of all analysis notes can be found here for reference.

To get to the results of the corresponding project you can scroll down or use one of the links below.

General CALICE Results

SiW ECAL Results

ScW ECAL Results

MAPS ECAL Results

AHCAL Results

W-AHCAL/DHCAL Results

TCMT Results

SDHCAL Results

DHCAL Results

T3B Results

Other CALICE-related papers

General CALICE results

General CALICE papers

- **CALICE-PUB-2011-002**: Tests of a particle flow algorithm with CALICE test beam data, C. Adloff et al., JINST 6 (2011) P07005; e-print: arXiv:1105.3417 (physics.ins-det).
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2018-001**: Hadronic Energy Resolution of a Combined High Granularity Scintillator Calorimeter System, JINST 13 (2018) P12022, e-print: arXiv:1809.03909 (physics.ins-det).
 - ◆ paper_calice_src.tar.gz: gzipped tar file including source and figures for CALICE-PUB-2018-001

- ◆ Associated CALICE Analysis Notes :

General CALICE analysis notes

- **CALICE-CAN-2017-002** [↗](#) (was CAN-058): Energy Reconstruction of Hadrons in a Highly Granular Si-W ECAL and Plastic Scintillator HCAL Calorimeter System
 - ◆ CAN-058.tar.gz: tar file including source and figures for CALICE-CAN-2017-002
 - ◆ Results obsolete, not to be used anymore

SiW ECAL results

SiW ECAL papers

- **CALICE-PUB-2008-001** [↗](#): **Design and Electronics Commissioning of the Physics Prototype of a Si-W Electromagnetic Calorimeter for the International Linear Collider**, J.Repond et al., JINST 3 (2008) P08001 [↗](#); e-print: arXiv:0805.4833v1 [↗](#)
 - ◆ tar file [↗](#) including source and figures of CALICE-PUB-2008-001
- **CALICE-PUB-2008-002** [↗](#): **Response of the CALICE Si-W Electromagnetic Calorimeter Physics Prototype to Electrons**, C. Adloff et al., NIM A608 (2009) 372 [↗](#); e-print: arXiv:0811.2354 [↗](#)
 - ◆ SiWECAL.tgz: gzipped tar file including source and figures of CALICE-PUB-2008-002
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2010-001** [↗](#): **Study of the interactions of pions in the CALICE silicon-tungsten calorimeter prototype**, C. Adloff et al., JINST 5 (2010) P05007 [↗](#); e-print: arXiv:1004.4996 [↗](#)
 - ◆ Paper04.tar.gz: gzipped including source and figures of CALICE-PUB-2010-001
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2011-001** [↗](#): **Effects of high-energy particle showers on the embedded front-end electronics of an electromagnetic calorimeter for a future lepton collider**, C. Adloff et al., NIM A 654 (2011), 97 [↗](#); e-print: arXiv:1102.3454 [↗](#)
 - ◆ Paper-008.tgz: gzipped tar file including source and figures of CALICE-PUB-2011-001
- **CALICE-PUB-2014-002** [↗](#): **Testing Hadronic Interaction Models using a Highly Granular Silicon-Tungsten Calorimeter**, B. Bilki et al., NIM A794 (2015) 240-254 [↗](#); e-print: arXiv:1411.7215 [↗](#)
 - ◆ calice-pub-2014-002.tgz: gzipped tar file including source and figures for CALICE-PUB-2014-002
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2019-002** [↗](#): **Characterisation of different stages of hadronic showers using the CALICE Si-W ECAL physics prototype**, G. Eigen et al., NIM A937 (2019) 41-52 [↗](#); e-print: arXiv:1902.06161 [↗](#)
 - ◆ calice-pub-2019-002.tgz: gzipped tar file including source and figures of CALICE-PUB-2019-002
 - ◆ Associated CALICE Analysis Notes :
- **Beam test performance of the SKIROC2 ASIC**, M.S. Amjad et al., Nucl.Instrum.Meth. A778 (2015) 78-84 [↗](#)
- **Beam test performance of the highly granular SiW-ECAL technological prototype for the ILC**, K. Kawagoe et al., Nucl.Instrum.Meth.A 950 (2020) 162969 [↗](#); e-print: arXiv:1902.00110 [↗](#)

SiW ECAL analysis notes

- **CALICE-CAN-2010-004** [↗](#) (was CAN-017): Study of position and angular resolution for electron showers measured with the electromagnetic SiW prototype
 - ◆ CAN-017.tgz: gzipped tar file including source and figures for CALICE-CAN-2010-004
- **CALICE-CAN-2010-006** [↗](#) (was CAN-023a): Tracking with the CALICE Si-W electromagnetic calorimeter prototype using the Hough transform
 - ◆ CAN-023a.tar.gz: gzipped tar file including source and figures for CALICE-CAN-2010-006
- **CALICE-CAN-2013-006** [↗](#) (was CAN-046): Study of the response of the CALICE Si-W ECAL Physics Prototype to positrons using data taken at the Fermilab test beam facility
 - ◆ CAN-046.tgz: tar gzip file including source and figures for CALICE-CAN-2013-006
- **CALICE-CAN-2017-001** [↗](#) (was CAN-057): Separation of two overlapped electromagnetic or electromagnetic-hadronic showers in CALICE highly granular physics calorimeter prototypes using Pandora, Garlic and Arbor Particle Flow Algorithms
 - ◆ CAN-057.zip: zip file including source and figures for CALICE-CAN-2017-001

ECAL results

ECAL papers

- **CALICE-PUB-2013-004** [↗](#): **Performance of the first prototype of the CALICE scintillator strip electromagnetic calorimeter**, K. Francis et al., NIM A763 (2014), 278 [↗](#); e-print: arXiv:1311.3761 [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2017-002** [↗](#): **Construction and Response of a Highly Granular Scintillator-based Electromagnetic Calorimeter**, J. Repond et al., NIM A887 (2018), 150 [↗](#); e-print: arXiv:1707.07126 [↗](#)
 - ◆ Associated CALICE Analysis Notes :

ECAL analysis notes

MAPS ECAL results

MAPS ECAL papers

- **Monolithic Active Pixel Sensors (MAPS) in a quadruple well technology for nearly 100% fill factor and full CMOS pixels**, J. A. Ballin et al., Sensors 2008, 8(9), 5336-5351 [↗](#); e-print: arXiv:0807.2920 [↗](#)
- **Design and performance of a CMOS study sensor for a binary readout electromagnetic calorimeter**, J. A. Ballin et al., [[http://dx.doi.org/10.1088/1748-0221/6/05/P05* tar file including source and figures (009)][JINST 6 (2011) P05009]]; e-print: arXiv:1103.4265 [↗](#)
- **First radiation hardness results of the TeraPixel Active Calorimeter (TPAC) sensor**, T. Price et al., JINST 8 (2013) P01007 [↗](#)

AHCAL results

AHCAL papers

- **A high granularity scintillator hadronic-calorimeter with SiPM readout for a linear collider detector.** V. Andreev et al. Nucl.Instrum.Meth.A540:368-380,2005. [↗](#)
- **A high-granularity plastic scintillator tile hadronic calorimeter with APD readout for a linear collider detector.** V. Andreev et al. Nucl.Instrum.Meth.A564:144-154,2006. [↗](#)
- **CALICE-PUB-2010-001** [↗](#): **Construction and Commissioning of the CALICE Analog Hadron Calorimeter Prototype**, C. Adloff et al., JINST 5 (2010) P05004 [↗](#) ; e-print: arXiv:1003.2662 [↗](#)
- **CALICE-PUB-2010-003** [↗](#): **Electromagnetic response of a highly granular hadronic calorimeter**, C. Adloff et al., JINST 6 (2011) P04003 [↗](#) ; e-print: arXiv:1012.4343 [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2012-002** [↗](#): **Hadronic energy resolution of a highly granular scintillator-steel calorimeter using software compensation techniques**, C. Adloff et al., JINST 7 (2012) P09017 [↗](#); e-print: arXiv:1207.4210 [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2013-001** [↗](#): **Track segments in hadronic showers in a highly granular scintillator-steel hadron calorimeter**, C. Adloff et al., JINST 8 (2013) P09001 [↗](#); e-print: arXiv:1305.7027 [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2013-002** [↗](#): **Validation of GEANT4 Monte Carlo Models with a Highly Granular Scintillator-Steel Hadron Calorimeter**, C. Adloff et al., JINST 8 (2013) P07005 [↗](#); e-print: arXiv:1306.3037 [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2014-003** [↗](#): **Pion and proton showers in the CALICE scintillator-steel analogue hadron calorimeter**, B. Bilki et al., JINST 10 (2015) P04014 [↗](#) e-print: arXiv:1412.2653 [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2016-002** [↗](#): **Hadron shower decomposition in the highly granular CALICE analogue hadron calorimeter**, G. Eigen et al., JINST 11 (2016) P06013 [↗](#), e-print: arXiv:1602.08578 [↗](#)
 - ◆ Associated CALICE Analysis Notes :

AHCAL analysis notes

- **CALICE-CAN-2008-003** [↗](#) (was CAN-009): The reconstruction of the energy lost by a 120 GeV muon in the highly granular hadroni calorimeter for the International Linear Collider
 - ◆ CAN-009.tgz: gzipped tar file including source and figures for CALICE-CAN-2008-003
- **CALICE-CAN-2009-003** [↗](#) (was CAN-018): Calibration of the Scintillator Hadron Calorimeter of ILD
 - ◆ CAN-018.tgz: gzipped tar file including source and figures for CALICE-CAN-2009-003
 - ◇ partially included in ILD LoI

- **CALICE-CAN-2011-006** [↗](#) (was CAN-034): Analysis of low energetic electron and pion data collected with the AHCAL prototype at Fermilab
 - ◆ CAN-034.tar.gz: gzipped tar file including source and figures for CALICE-CAN-2011-006
- **CALICE-CAN-2011-009** [↗](#) (was CAN-029): Shower leakage in a highly granular calorimeter
 - ◆ CAN-029.tgz: gzipped tar file including source and figures for CALICE-CAN-2011-009
- **CALICE-CAN-2013-004** [↗](#) (was CAN-041): Uniformity of the CALICE Fe-AHCAL response to pions
 - ◆ CAN-041.tar.gz: gzipped tar file including source and figures for CALICE-CAN-2013-004
- **CALICE-CAN-2014-003** [↗](#) (comprises CAN-049 - CAN-049a): Analogue, Digital and Semi-Digital Energy Reconstruction in the CALICE AHCAL
 - ◆ CAN-049.zip: zip file including source and figures for CALICE-CAN-2014-003
 - ◆ CAN-049a.tar.gz: gzipped tar file including source and figures for Addendum A of CALICE-CAN-2014-003

W-AHCAL/DHCAL results

W-AHCAL/DHCAL papers

- **CALICE-PUB-2013-003** [↗](#): **Shower development of particles with momenta from 1 to 10 GeV in the CALICE Scintillator-Tungsten HCAL**, C. Adloff et al., JINST 9 (2014) P01004 [↗](#); e-print: arXiv:1311.3505 [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2015-001** [↗](#): **Shower development of particles with momenta from 15 GeV to 150 GeV in the CALICE scintillator-tungsten hadronic calorimeter**, M. Chefdeville et al., JINST 10 (2015) P12006 [↗](#); e-print: arXiv:1509.00617 [↗](#)
 - ◆ Associated CALICE Analysis Notes :

W-AHCAL/DHCAL analysis notes

- **CALICE-CAN-2012-004** [↗](#) (was CAN-039): Analysis of Tungsten-DHCAL Data from the CERN Test Beam
 - ◆ CAN-039.doc: MS Word file including source and figures for CALICE-CAN-2012-004
- **CALICE-CAN-2018-001** [↗](#) (was CAN-062): Application of software compensation to 2011 W-AHCAL test beam data
 - ◆ CAN-062.zip: zip file with source and figures for CALICE-CAN-2018-001
- **CALICE-CAN-2019-002** [↗](#): Time Analysis of the Partially Equipped CALICE Analog Hadronic Calorimeter Technological Prototype with Tungsten Absorber
 - ◆ CALICE-CAN-2019-002.zip: zip file with source and figures for CALICE-CAN-2019-002

TCMT results

TCMT papers

- **CALICE-PUB-2012-001** [↗](#): **Construction and performance of a silicon photomultiplier/extruded scintillator tail-catcher and muon-tracker**, C. Adloff et al., JINST 7 (2012) P04015 [↗](#); e-print: arXiv:1201.1653 [↗](#)

- ◆ Associated CALICE Analysis Notes :

TCMT analysis notes

SDHCAL results

SDHCAL papers

- **Construction and commissioning of a technological prototype of a high-granularity semi-digital hadronic calorimeter**, G. Baulieu et al., JINST 10 (2015) P010039 [↗](#); e-print: [arXiv:1506.05316](#) [↗](#)
- **CALICE-PUB-2016-001** [↗](#): **First results of the CALICE SDHCAL technological prototype**, V. Buridon et al., JINST 11 (2016) P04001 [↗](#); e-print: [arXiv:1602.02276](#) [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2016-004** [↗](#): **Resistive Plate Chamber Digitization in a Hadronic Shower Environment**, Z.Deng et al., JINST 11 (2016) P06014 [↗](#); e-print: [arXiv:1604.04550](#) [↗](#)
 - ◆ Associated CALICE Analysis Notes :
- **CALICE-PUB-2017-001** [↗](#): **Tracking within Hadronic Showers in the CALICE SDHCAL prototype using a Hough Transform Technique**, Z.Deng et al., JINST 12 (2017) P05009 [↗](#); e-print: [arXiv:1702.08082](#) [↗](#)
 - ◆ Associated CALICE Analysis Notes :

SDHCAL analysis notes

- **CALICE-CAN-2015-001** [↗](#) (was CAN-054): Separation of nearby hadronic showers in the CALICE SDHCAL prototype detector using ArborPFA
 - ◆ [CAN-054.tar.gz](#): gzipped tar file including source and figures for CALICE-CAN-2015-001
- **CALICE-CAN-2019-001** [↗](#): Hadron selection using Boosted Decision Trees in the semi-digital hadronic calorimeter
 - ◆ [CALICE-CAN-2019-001.zip](#): zip file with source and figures for CALICE-CAN-2019-001

DHCAL results

DHCAL papers

- **Calibration of a digital hadron calorimeter with muons**, B.Bilki et al., JINST 3 (2009) P05001 [↗](#); e-print: [arXiv:0802.3398](#) [↗](#)
- **Resistive Plate Chambers for Hadron Calorimetry: Tests with Analog Readout**, G.Drake et al., Nucl. Instr. and Meth. A578, 88 (2007) [↗](#).
- **Measurement of Positron Showers with a Digital Hadron Calorimeter**, B.Bilki et al., JINST 4 (2009) P04006 [↗](#); e-print: [arXiv:0902.1699](#) [↗](#)
- **Measurement of the Rate Capability of Resistive Plate Chambers**, B.Bilki et al., JINST 4 (2009) P06003 [↗](#); e-print: [arXiv:0901.4371](#) [↗](#)
- **Hadron Showers in a Digital Hadron Calorimeter**, B.Bilki et al., JINST 4 (2009) P10008 [↗](#); e-print: [arXiv:0908.4236](#) [↗](#)

- **Environmental Dependence of the Performance of Resistive Plate Chambers**, B.Bilki et al., JINST 5 (2010) P02007 [↗](#); e-print: arXiv: 0911.1351 [↗](#)
- **Tests of a novel design of Resistive Plate Chambers**, B. Bilki et al., JINST 10 (2015) P05003 [↗](#); e-print: arXiv:1501.05907 [↗](#)
- **Measurements of the Rate Capability of Various Resistive Plate Chambers**, M. Affatigato et al., JINST 10 (2015) P10037 [↗](#); e-print: arXiv:1507.06968 [↗](#)
- **CALICE-PUB-2016-003 [↗](#): DHCAL with Minimal Absorber: Measurements with Positrons**, B. Freund et al., 2016 JINST 11 P05008 [↗](#); e-print: arXiv:1603.01652 [↗](#)
- **CALICE-PUB-2019-001 [↗](#): Analysis of Testbeam Data of the Highly Granular RPC-Steel CALICE Digital Hadron Calorimeter and Validation of Geant4 Monte Carlo Models**, M. Chefdeville et al., NIM A939 (2019) 89-105 [↗](#); e-print: arXiv:1901.08818 [↗](#)
 - ◆ Associated CALICE Analysis Notes :

DHCAL analysis notes

- **CALICE-CAN-2013-003 [↗](#)** (was CAN-042): The DHCAL Results from Fermilab Beam Tests: Calibration
 - ◆ CAN-042.docx: MS Word file including source and figures for CALICE-CAN-2013-003

T3B results

T3B papers

- **T3B an experiment to measure the time structure of hadronic showers**, F. Simon, C. Solder, L. Weuste; JINST 8 (2013) P12001 [↗](#); e-print: arXiv:1309.6143 [↗](#)
- **CALICE-PUB-2014-001 [↗](#): The Time Structure of Hadronic Showers in Highly Granular Calorimeters with Tungsten and Steel Absorbers**, C. Adloff et al., JINST 9 (2014) P07022 [↗](#); e-print: arXiv:1404.6454 [↗](#)
 - ◆ Associated CALICE Analysis Notes :

T3B analysis notes

Other CALICE-related papers

- **Uniformity Studies of Scintillator Tiles directly coupled to SiPMs for Imaging Calorimetry**, F. Simon and C. Soldner, Nucl. Instrum. Meth. A620 (2010), 196 [↗](#); e-print: arXiv:1001.4665 [↗](#)
- **Directly coupled tiles as elements of a scintillator calorimeter with MPPC readout**, G. Blazey et al., NIM A605 (2009) 277-281 [↗](#)
- **Beam Tests of Directly Coupled Scintillator Tiles with MPPC Readout**, F. Abu-Ajamieh, et al., NIM A659 (2011) 348-354 [↗](#)
- **Development of a modular and scalable data acquisition system for calorimeters at a linear collider**, M.J.Goodrick et al., 2011 JINST 6 P10011 [↗](#)

- **Study of the response and photon-counting resolution of silicon photomultipliers using a generic simulation framework**, P Eckert, R Stamen and H -C Schultz-Coulon, 2012 JINST 7 P08011 [↗](#)
- **A novel strip energy splitting algorithm for the fine granular readout of a scintillator strip electromagnetic calorimeter**, K. Kotera, D. Jeans, A. Miyamoto, T. Takeshita, Nucl. Instrum. Meth. A789 (2015), 158 [↗](#)
- **A design of scintillator tiles read out by surface-mounted SiPMs for a future hadron calorimeter**, Yong Liu et al., 2014 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC) [↗](#); e-print: arXiv:1512.05900 [↗](#)
- **The FoCal prototype - an extremely fine-grained electromagnetic calorimeter using CMOS pixel sensors**, G. Nooren et al., Submitted to JINST; e-print: arXiv:1708.05164 [↗](#)

EUDET note

The following EUDET note is based on CALICE results from CAN-026.pdf and NIM A608 (2009) 372 [↗](#). The results were reinterpreted into slightly different figures in most cases, but the information content and analysis procedures are unaltered. Results shown in this note have been approved for public presentation as "CALICE Preliminary".

- EUDET-Memo-2010-15.pdf [↗](#): Validation of GEANT4 hadronic models using CALICE data

-- RomanPoeschl - 2019-09-20

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