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ATLAS

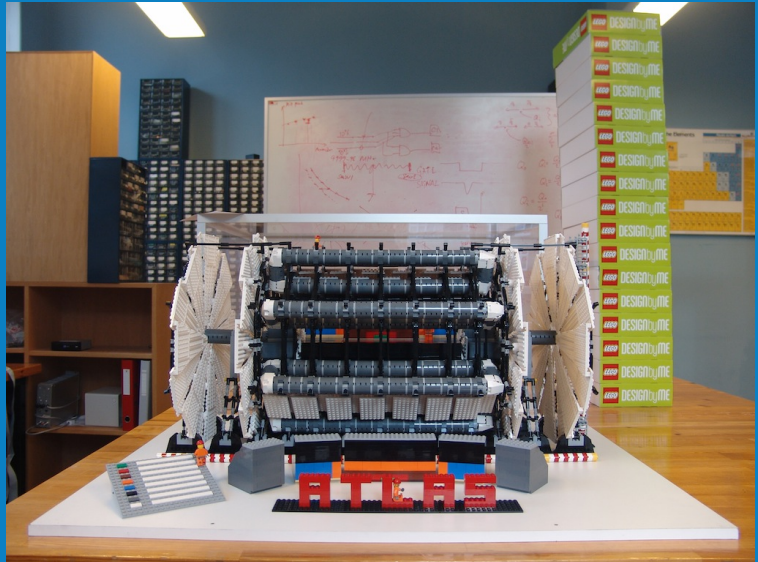


What is your name?	I'm a Transitional Radiation Tracker, or TRT, Straw.
Where are you from?	I'm not sure where I'm from—the TRT straws were made in a few different places, like France and Spain—but I was assembled in ATLAS at CERN.
What's your role in ATLAS?	I detect particles created during collisions, and both track the direction they fly in and a little information about what kind of particle they might be.
How do you do that?	I'm made of three layers: the outside shell of the 'straw', a wire in the middle, and gas in between. When some particles pass through me they ionize the gas, leaving behind loose electrons. They are drawn to my wire, creating a signal that moves outside. When combined with information from the other 10,000s of TRT straws in ATLAS we can give very detailed information on the path a particle is taking and some hints about what that particle might be.
What else should we know about what you do?	Everything in the inner detector, including me, is focused upon finding the direction of particles made in the collisions inside ATLAS, but I do it in a very different way from my neighbors in the Pixel Detectors—they're all more like digital cameras.

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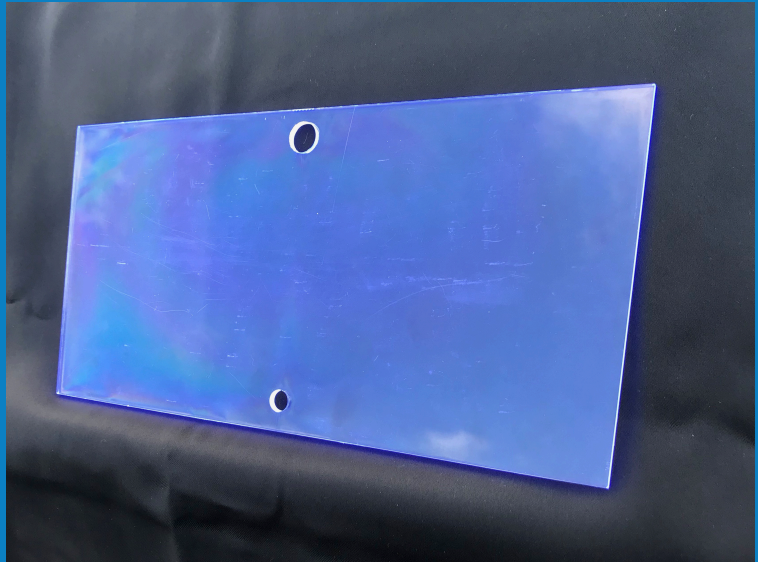


ATLAS



What is your name?	I'm an ATLAS Lego Model
Where are you from?	I'm made of Lego bricks that come from one of many factories all over the world, including Denmark, Mexico, and China, but those bricks were put together to make this model at CERN.
What's your role in ATLAS?	I show people what the ATLAS Detector looks like. That's important because the public can't go see the detector itself very often. Even when they do the it's so big people normally can't see the parts of it well.
How do you do that?	My design represents all the important parts of the ATLAS Detector, so people can use me to learn what all the different systems in detector and how they fit together to make a whole object. Because Legos are familiar and fun I can make something big and strange easier to understand.
What else should we know about what you do?	It's a lot of work, but if you want to you can build your own ATLAS Lego Model! The directions on what Legos you need and how they're put together are available for free here: https://build-your-own-particle-detector.org/models/atlas-lego-model

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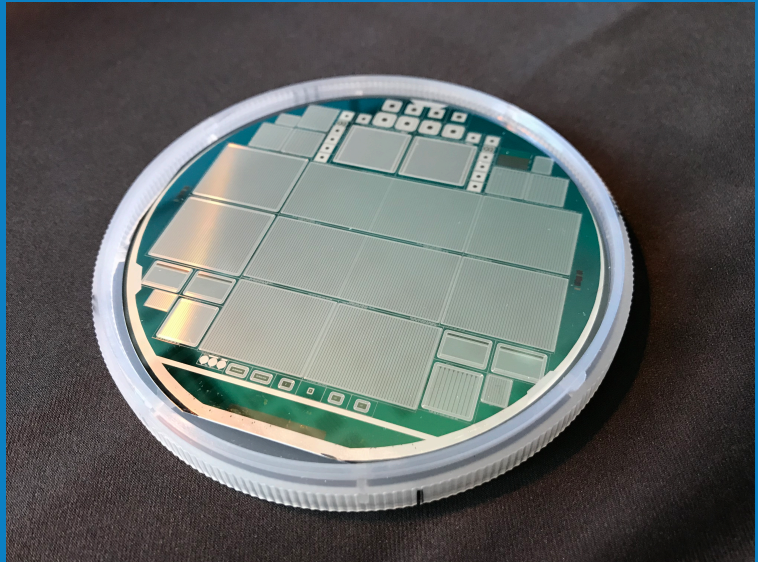


What is your name?	I'm a Scintillating Tile
Where are you from?	I'm part of ATLAS's Tile Calorimeter. It detects a type of particle called hadrons, including protons and neutrons.
What's your role in ATLAS?	I'm part of ATLAS's Tile Calorimeter. It detects a type of particle called hadrons, including protons and neutrons.
How do you do that?	A calorimeter measures the energy of particles by slowing down and stopping them., In mine the particles first crash into my partner, the steel plate, who breaks them apart into a spray of energetic particles. Then, the plastic I'm made of absorbs their energy and releases it as light. While I might not look like much on my own, ATLAS contains thousands of me, and together we can measure the energy and direction of hadrons after a collision.
What else should we know about what you do?	The signal I help create is turned from light into digital data by a computer chip just after it leaves me. But, then it's turned back into light to travel out of the detector. This might sound like it's more complicated than it's worth, but it actually lets us combine the best features of each system and compensate for their weaknesses.

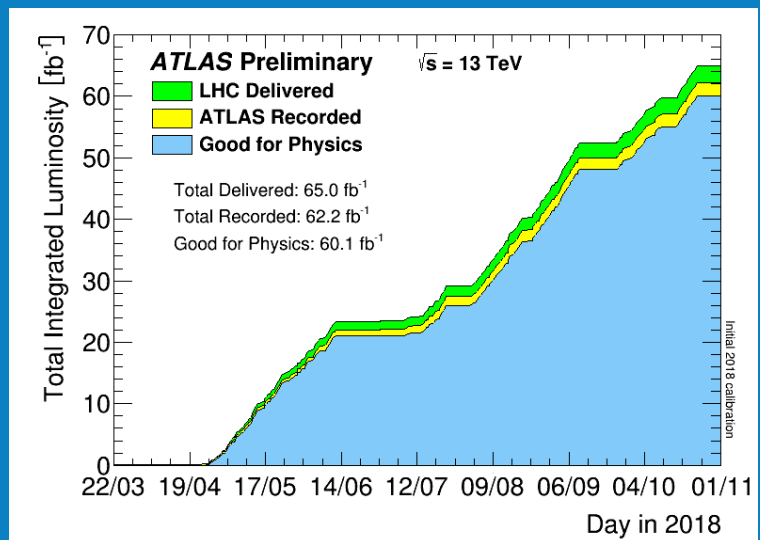
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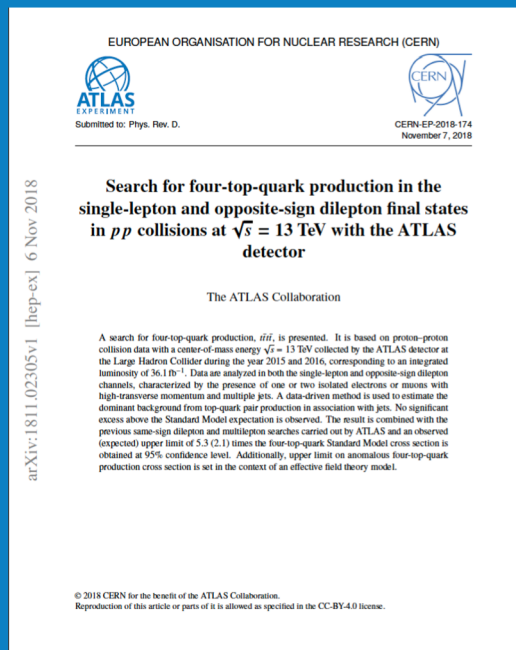
ATLAS



What is your name?	I'm a Insertable B-layer pixel test wafer
Where are you from?	I'm made from chips made in a variety of places by different companies.
What's your role in ATLAS?	The Pixel detector, which senses the direction of particles created in collisions, needed an update to keep it as accurate as possible. However, before parts are installed in the detector we have to be sure they'll be able to work effectively and reliably. I was made to test new designs to make sure we picked the best one to put in ATLAS.
How do you do that?	I was exposed to an extra test beam of protons, a lot like the one inside the LHC, to see how well the different sensors inside me performed under the extreme conditions found inside the detector.
What else should we know about what you do?	After five years of running the three original layers of Pixel were becoming damaged enough that ATLAS was worried that they wouldn't work as well. However, they couldn't replace the layers already there, so instead they made a new layer to help out—the one I'm a test for! It sits inside of the other layers of Pixel, right next to the proton beam, and provide extra data that compensates for missing spots from the worn out pixels in the other layers.



What is your name?	I'm the "Total Integrated Luminosity Report 2018" Plot.
Where are you from?	I'm made at CERN from the data coming out of the ATLAS detector.
What's your role in ATLAS?	I update everyone on how well the LHC and ATLAS are doing at creating as much usable data as possible.
How do you do that?	My plot has three main sections that show three things: 1) How much of the time the LHC is giving ATLAS the collisions it needs to collect data. 2) How much of the time ATLAS actually collects data from those collisions. 3) How much of that data is useful for physics research.
What else should we know about what you do?	I show that ATLAS overall is doing an amazing job! In order to collect usable data basically every part of the detector has to be working well, so I am proof that everyone and everything involved in the detector is working right almost all the time.



<p>What is your name?</p>	<p>I'm a scientific paper called "Search for four-top-quark production in the single-lepton and opposite-sign dilepton final states in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector".</p>
<p>Where are you from?</p>	<p>I was written and edited by scientists all around the world, so I'm really from everywhere.</p>
<p>What's your role in ATLAS?</p>	<p>Scientific papers the rest of world what ATLAS has been doing and discovering. I'm mostly aimed at telling scientists, but anyone, including the public, can read me to learn more.</p>
<p>How do you do that?</p>	<p>Inside of me scientists describe what they think they've discovered using the ATLAS detector and its data. When scientists write papers they don't just explain what it found, but also how they found it, so that other scientists can test or debate their conclusions.</p>
<p>What else should we know about what you do?</p>	<p>Because ATLAS is a huge collaboration our papers can have lots of authors—sometimes even thousands!—who all contributed in some way.</p>

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What is your name?	I'm Claire Lee.
Where are you from?	I'm from Johannesburg, South Africa, and my current home institution is Brookhaven National Laboratory in the United States.
What's your role in ATLAS?	Right now I work on physics analyses. I've been working on new analysis of standard model measurements and am looking at how we'll measure the same concepts with the high luminosity LHC we're preparing for in the 2030s.
How do you do that?	Mostly, sit in front of my computer yelling at it because my code isn't compiling. But ideally, I'm looking through the data to find signals that might match the events I'm interested in. Then I have to compare them to simulations of what types of events are possible in the collisions to check if it matches our predictions well or if it's showing that there is something we don't understand.
What else should we know about what you do?	I like that data analysis is really a treasure hunt. We find things we don't understand all the time, so the hard part is figuring out what plots to use or code to write in order to decipher the issue. Only after that can we tell whether we've discovered something big or not.

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What is your name?	I'm Rosy Nikolaidou
Where are you from?	I'm from Athens, Greece, but I work for a CEA in Paris and I am based at CERN.
What's your role in ATLAS?	I am the deputy data coordinator, which means that I make sure that the data we are recording is useful. That may sound like an easy task, but it involves coordinating a lot of teams, from recording it at the detector to software infrastructure to analyze it.
How do you do that?	Every day we have a meeting to look at how much data has been collected in the past 24 hours and if there were any sub-detectors that had any problems or missing data over that day. Then we have to make sure the data gets processed and distributed all over the world for analysis.
What else should we know about what you do?	I like that this kind of role means that I have a very global view of what's going on in ATLAS, which is a huge and complex system. Not many people have the opportunity to have this global picture. This can be a lot of work, and can mean you get no weekends or not much sleep at night, but it's very rewarding, and you can see your contribution to the collaboration clearly.

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What is your name?	I'm Sascha Mehlhase
Where are you from?	I was born and raised in Berlin, Germany, and after having lived in Berlin, Geneva and Copenhagen, I now live in Munich.
What's your role in ATLAS?	I'm a physicist, and am currently one of two ATLAS Outreach coordinators in charge of the planning and implementation of an ATLAS-wide education, communication and outreach programme.
How do you do that?	I spend most of my time in front my computer and in meetings (often also via a computer). For the outreach coordination I manage and work with a small team of people on the main responsibilities, such as our website, social media activities or updates. In addition we aim to engage, involve and support the collaboration in outreach activities.
What else should we know about what you do?	Two very interesting things on outreach right now, at least for me personally, are the preparations for a new ATLAS Visitor Centre and the upcoming CERN Open Days I am honoured to manage.

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What is your name?	I'm Christopher Martin.
Where are you from?	Originally I'm from Manhattan, Kansas, and currently I'm affiliated with Ohio State University as a postdoctoral researcher.
What's your role in ATLAS?	As a postdoctoral researcher I do a varied set of things. Currently one of my main purposes is to do physics analysis, which means looking at the data we've collected over the past few years and seeing if we find any new physics phenomena in there or if we find any keys that help us answer some of our unanswered questions.
How do you do that?	So, the day to day is honestly a lot of computer programming. Usually I come into the office in the morning, check my email, then start writing specialized computer software to analyze the data that we've been collecting on ATLAS.
What else should we know about what you do?	I also write computer programs to analyze create simulated data as well as real data from the detector. This simulated data is actually really important for us because, as scientists, we like to hypothesize what might be in the universe around us. If we saw a new theory we want to test we have to generate simulated data so that we know what real data from the detector confirming the theory would look like.

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What is your name?	I'm Irakli Minashvili.
Where are you from?	I am the Republic of Georgia. I went to high school and university in Tblisi. I've worked at CERN full-time since 2004 but my home institutes are still the Dubna Joint Institute for Nuclear Research in Russia and Tblisi State University in Georgia.
What's your role in ATLAS?	My role is a maintenance group coordinator, which means I'm management for some people and some portions of the detector, especially the Tile Calorimeter.
How do you do that?	Every day we are watching the detector to see if it's working well or not, and if something's wrong we have to fix it immediately from the surface. When the detector is working well we test new pieces for the upgrades that are coming to ATLAS using a test beam and experiments. We're good at taking care of the detector, so right now I spend about 10% of my time fixing it and 90% developing on things for the future.
What else should we know about what you do?	If we can't fix something from the surface we have a for a technical stop. We test possible fixes in our lab here so we're ready when a stop happens. We need very experienced people around when we do that because you need to go down and do fix very very fast.

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What is your name?	I'm Christoph Rembser.
Where are you from?	I'm a physicist from Bonn, Germany, where I grew up and I studied there before coming to CERN.
What's your role in ATLAS?	I'm currently the Team Leader of the CERN ATLAS Team, which means that I coordinate the activities of about 150 CERN staff, fellows, and students working on ATLAS.
How do you do that?	Most of the time I'm sitting in my office doing spreadsheet management, looking for the budget which the team and ATLAS would need in the next years and for the upgrades, and also participate in the decisions of what the CERN ATLAS team will work on and not work on.
What else should we know about what you do?	I try to as often as possible to find time for doing physics and to look into physics papers, and to help ATLAS review physics results. The time to do physics myself is, at the moment, with this administrative role, is pretty restricted, however I try to keep base, especially with the young people, on their analysis to be able to jump back to physics once my role as team leader is done.