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DANGO (Doings and Goings On) - Vol. 22 | Issue 7

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DANGO (Doings and Goings On)

Picture of the Week Winner: “Molly and I got soaked three times.” -Zhaojia



Group Updates



FROM MATTHEW KIMBALL:

Dear DANGO,

This week has been a relaxing one as it has just been a 9-5 shift all week. Aric and I worked on our projects as much as

we could without Mickey until he finished shift on Thursday and we got a significant amount done without and with his help. The electronics that were my and Haley's task to work on have all been tested and now all that is left to do is to work through the graphs to figure out the specifics for each piece of the circuit. I'm excited for July 4th on Monday and another week after that.

Talk to you later DANGO,
Matthew Kimball

FROM ARIC TATE:

Hello everyone,

mRPC progress this week was negligible. After removing the mRPC and testing the pre-amps last week we returned the mRPC to its vessel and reattached all HV, LV, signal, and gas. Unfortunately, when I arrived on Monday the gas had ceased flowing. We should have a new tank of R-134a waiting for us on Tuesday, which means we should be able to ramp up HV Wednesday and begin seeing signals. With our might leaders (Rusty and Mickey) back, we will surely be able to resolve any signal issues and be able to move on to a detector with more gaps. Also, much progress was made in the electronics study.

-Aric

FROM HALEY STIEN:

Hey Dango,

I had the last week off and spent my time exploring Long Island and NYC with my mom. It was fun, but now I have nothing to report about work. This is also why Dango is a little late this week!

Sorry... Not sorry,
Haley



FROM VICENTE ROJAS:

I spent the first half of this past week making sure that the hydraulics calculations for the Brady wastewater plant were correct. I am still waiting for my boss Josh to look at them. The second half of the week was spent writing a design report for a simple wastewater treatment project. Kubota Tractor Corporation (KTC) is currently building their new headquarters in Grapevine, TX. They asked eHT to design a simple wastewater treatment facility within their property. KTC intends to treat their own wastewater and reuse it for irrigation. It is a great initiative. Not only will they save a lot of money, but this will help the city reduce the amount of flow that goes to their wastewater collection system.

Happy 4th of July!

Vicente



FROM ZHAOJIA XI:

Kon'nichiwa Dango,

This week I spent most time working on my code. The code runs pretty

well right now, Andrew is asking me to access and print out more data and I am working on it. On Thursday we went to hear a talk about the engineering of particle detectors. Speaker talked a lot about cosmology which really grabbed my attention. On the same day, we found out that Keithley system has been down since the late April. Dr. I went downstairs and power cycled the system. Also during the control access, I saw shed skin for the first time and I am proud to say that I overcame one of my biggest fears.

Ready for the long weekend,
Zhaojia(Tiffany) Xi

FROM CALEB HICKS:

<Generic Greeting>,

This week I helped Dr. I a bit with the cosmic ray detector and made sure that I understand what everything is doing and how it all works. I also spent a lot of time looking over code to make the dark photon MC interface with the tracking software, but Dr. D finished a lot of it while he was on swing and I wasn't able to help much. Other than that it's been a slow week. Still waiting to get a project, though Reuben and Paul have their so it shouldn't be too long I hope.

<Generic Send-off>,
Caleb Hicks

FROM JOSHUA MARTINEZ:

Wassup DANGO,

This week was rather relaxing due to the fact I had Monday and Wednesday off to fix my sleeping schedule. Tuesday I had a rather easy swing shift and it was rather relaxing. Thursday I learned I am going to be helping with the cosmic tests of scintillators for dark photon triggers. That made me actually pretty excited knowing that I have a primary project to be working on. Friday we attempted to do some actual building of the cosmic test stand but ran into the problem of not having anything to cut wood with. The main issue is I need to cut a rectangle out of the middle of a 3/4 inch sheet of plywood. To do that, I am going to need a Jigsaw, which we just don't happen to have. So that pretty much shot our progress down on that until we can acquire one. Hopefully Tuesday I can start cutting and building this project. Happy 4th of July, DANGO.

Sincerely,
Joshua Daniel Martinez

FROM PAUL CARSTENS:

Salutations!

Things have been accomplished this week! I finished up the PT kick study on mc drell-yan data and calculated the magnet pt kick settings that give the best results. The values are considerably different than what was previously recommended, but these new values give better results on the mc data. I don't know what to make of it, but since I've started

work on the cosmic ray test stand the jTracker baton has been passed to Reuben.

On that note, josh and I have now started working on the cosmic test stand to test the SiPMs. Unfortunately, the light tight box we have won't fit the test hodoscopes and the SiPMs' scintillators so we'll need to cut a hole in the side and extend it. We've got the extension all planned and now we just need to cut the wood, build it, and test it for light leaks.

Still alive,
Paul Carstens

FROM REUBEN BYRD:

Hi Dango,

Early this week Paul and I finished the macro for graphing the alignment of the detectors. The problem now is that the table we are pulling geometry files from is in a different database than the run data we want to sqerp, and the permissions are denied for editing with the login that we use. Long story short, I'm waiting for things in the database to be updated. Some of us are also working on building a new light-tight box for some efficiency studies for scintillators that will be used for the dark photon search. In other news, I'm leaving this Friday and will be gone all of next week, I'm working at a summer camp in Wisconsin with some of my family.

Tschuss,
Reuben

FROM DR. MIKE DAUGHERITY:

DANGOers,

I've been mostly working evening and weekend shifts this week, but in the meantime I've had a few pleasant findings this week. It is always fun to run across several things done by previous ACU students. We've used a beam monitor, a light-proof box for testing scintillators, and the super fancy digital multimeter used to read out temperature, pressure and humidity in the experimental hall. I crossed paths with the last one when we realized it wasn't being displayed correctly in the database. Eventually I found a subtle bug that broke the web page after we reached our 1,000,000th beam spill and the extra digit broke things. It felt kind of like reliving Y2K all over again. We will have a similar problem when we reach a million runs, so if we keep going at the current rate I calculate that will be in January 2197.

By far the most interesting thing to happen this week was during Wednesday's controlled access while the beam was down for maintenance (something about a 600 gallon/day water leak). The Los Alamos group had left a computer and VME crate near the target just to see how much radiation damage they can take before they stop working (spoiler alert: not much). While they were bringing up the now-defunct computer they noticed something unusual hanging above the door. They crept in for a closer look and found a 4 foot long snake skin in

SeaQuest. That means our experiment actually has a GIANT RADIOACTIVE SNAKE slithering around it. How many people get to have that at work? Sometimes I just really love my job.

Stay Classy,
-Dr D

FROM DR. DONALD ISENHOWER:

Report from Dr. I. from Fermilab:

This week at Fermilab has been spent continuing developing the muon setup for testing the SiPM test for the extruded scintillators that will be used for the dark photon trigger. I also have been working on final ideas of what can be done on testing the LeCroy High Voltage systems power supplies. I have concluded that I will do debugging that can be done without 208 AC power on them on the bench, mostly due to all the rules that the lab has if I do that, so I will test the parts that run off the low voltage regulators on the test bench and then attach wires to test points and put it into the crate to check things so that one can't touch the deadly parts of the circuits.

I've also been trying to finish edits of my parts of a paper that describes the SeaQuest paper that is being submitted to the Nuclear Instruments and Methods (NIM) journal very soon. I also completed my abstract for the DNP meeting in the Fall, which is the one all of you students will be expected to submit posters to via

the CEU program. It is being held in Vancouver, Canada.

Larry arrives this weekend and we will have a birthday party on Sunday at his wife's parents' home in Naperville. Cindy and I celebrated our 37th wedding anniversary on Thursday the 30th. We tried out a new Italian restaurant on the Fox River in Batavia.

Keep on working!
Dr. I.

In Other News..

Fermilab's symmetry magazine just put out a good article for the 60th birthday of the neutrino. Check it out!!

<http://www.symmetrymagazine.org/article/the-neutrino-turns-60>

Picture of the week candidates

Dr. D: "Physics homework question: what happens when you put the heaviest person at the very front of the log ride?"



Joshua: "Just looking as majestic as ever with Tiffany being extra focused in the background at an Undergraduate physics talk."



Dr. D: "The Basilisk of SeaQuest"



Haley: "Saw Paramour with Cirque Du Soleil on Broadway!"



Zhaojia: “Ummm, something doesn't seem right in this picture.”



Coffee of the Week!

Crazy Crepe Café- Chai and cappuccino



Haley: “First time seeing Times Square!
Lots of interesting sights and smells..”

