PHYSICS AT SOUTHERN

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[SAU logo here] [Physics Dept. logo here]

DEMONSTRATION OF EARTH'S ROTATION FAILS -- OEM ELECTRONICS FAULTY

The Hickman Science Center Foucault pendulum is to be sent back to the electronics specialists for redesign. However this was delayed by a time-consuming repair of the atrium windows.

TIME FLIES (WHY? THE SPUR OF THE MOMENT!)

The 1997-1998 academic year is in its last quarter. The class schedule, the 1998-1999 SAU bulletin, and a variety of assessment documents are out of the way and we can concentrate on ending the academic year well. The Physics Staff meets every Monday at 11:00 to do things like this, to review the week, to plan for events, and to brainstorm about the future.

This year advisement for the fall semester had much more satisfactory results: rather than merely planning what they probably would take next semester, students were able to actually preregister for their classes, and not face the huge delays and lines formerly typical of fall registration. One less thing to worry about during the summer! (Several students in the department are looking forward to summer internships.)

HARDWARE

A video projector has been installed in the Physics amphitheater. It can be operated remotely to show video cassettes, computer graphics, and (after an antenna is connected) satellite-link programming.

Tape backup systems have been purchased for each of the staff computers.

We have had many leaks from above (cf. first news item), but slowly they are being stopped.

Students had the opportunity to see a visual representation of the Vernal Equinox on Geochron map/clock in the main Hickman Science Center atrium last week. On the way to class on Friday, Earth Science students could see that the sunrise and sunset lines still "angled together," indicating slightly shorter days than nights in the northern hemisphere (and the reverse in the southern hemisphere). By class-time on Monday the lines clearly diverged towards the north: our days are now longer than our nights. Don't forget the the upcoming time change on April 5.

[The vernal equinox was Friday, March 20, at 2:55 PM.]

STAFFWARE

Dr. Caviness attended a workshop on Science and Religion to get ideas for his Issues in Physical Science and Religion class. The conference was held at nearby Bryan College for portions of February 25 to 27.

Dr. Chris Hansen and student Michael Brandt have begun the construction of a research-grade 15 mW laser.

Dr. Henry Kuhlman holds bi-weekly observing sessions with the Department's new
Celestron telepscope. The computer drive will point the telescope to any one of ___ objects (including the moon and planets) once any two of the objects have been sighted. A CCD camera is part of the equipment.

Two messages received from Dr. Kuhlman follow:

1111 (evidently from the site of a "Science Alliance" event with high-school teachers)

From: Henry Kuhlman <hk>
Subject: tue
Date: Tue, 10 Mar 1998 16:58:41 -0500 (EST)

"Greetings from Baylor High School" (with Departmental laptop on the High School phone line).

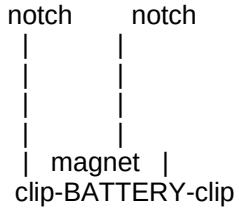
2222

"Here is how to make a SIMPLE neat motor;
all this can be gotten at Radio Shack for less that $3.

1. get a D-cell battery
2. get some # 26 gauge enameled copper magnet wire (green)
3. get a couple small (1" x 1" x 1/8") magnets
4. get a couple metal paper-clips
5. get a couple rubber bands

A. Straighten paper clips till they look like: _____
|__ /
___|

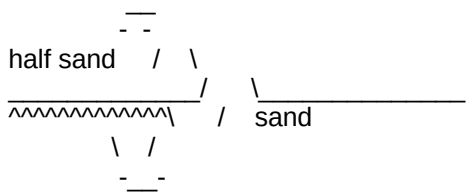
B. Use rubber bands to connect straightened paper clips to battery:
and lay magnet on battery



C. Position battery horizontally on a table with notches in paper clips about an inch and a quarter above the top of the round side of battery.

D. Using a couple feet of the wire make a coil by winding the wire around a broom handle (or anything about an inch in diameter). Leave a couple inches of straight wire out each end:

Coil has fifteen or so turns.



E. MOST IMPORTANT step:

sand green insulation off one end of straight wire at end of coil;
sand ONLY half of green insulation off other end of coil;
when you look at coil, round coils have all their green
right straight end is bare (copper colored)
left straight end is bare the half of wire by
arrows and is green on half of wire opposite
(above) arrows.

F. set coil of wire onto notches of paper clips (half bare wire either way). Length of paper clips should be such that coil can rotate without touching magnet, yet comes close (1/4") to it.

Motor should work. (May need a gentle push to get started.)"

Dr. Ray Hefferlin attended the Workshop on Discrete Mathematics in Chemistry at Rutgets University, March 23 to 26. He is enjoying his "retirement," working with two students on research and teaching one class (Calculus Applications of General Physics, which was once called Extra Hour of General Physics).

Dr. Cyril Roe is again teaching his popular Earth Science section (plus another course in the Department of Education).

NEWS FROM ALUMNI (FIND HOW MANY BABIES ARE BEING EXPECTED!)

Note: Names in parentheses are of wives or husbands, where known)

Dan Bartell (Janan)

"My job at Affymetrix is the best job I have ever had. The variety is very enjoyable. The variety is in the technologies, and the employees' nationalities. The people are warm, about half the employees and managers are women. Biologists are often more social in general than engineers and there are plenty of biologists at Affymetrix."

"I turned down a promotion this year to be a manager.* It took a heartbeat to decide. It is pleasant developing products and having minimal exposure to budgets, etc."

_____

* Truly a rare example of knowing one's mind (ed.)

_____

"Thursday night before Christmas we sorted presents at the Giving Tree. It is an organization that collects presents from all the over Silicon Valley. Slips of paper with a child's name, age, and Christmas wish are given to the

participating businesses. The employees at the businesses buy and wrap the gifts. The gifts are gathered in a warehouse. We have given gifts before, but had not helped at the warehouse."

Janene Burdick (Jack)

"Greetings from Atlanta. We are really excited to move into a house with lots of room for visitors and a big yard for our cat Austin."

"Janene passed her Series 7 in October and is enjoying working at an institutional research firm after 2 years with J. C. Bradford. Davis, Mendel & Regenstein (of Ned Davis Research) is providing her a great opportunity to learn the institutional side of the securities industry."

They have found meaningful roles in their growing church, the New Community (affiliated with the Seventh-day Adventist church).

Gary Burdick (Aurora)

[The LaSierra University Physics program has been downsized to the teaching of service courses and downsized from four to two faculty. The Physics Department of SAU wrote a letter urging the Administration of LSU to think things over -- a good letter we thought, though it wasn't quoted in the media as others were.]

Gary is "last in, first out." He seems to have some nibbles for his job enquiries.

Gary is teaching a university course on _Science Fiction_!

Rick Cavanaugh

"Attempting to measure the mass of the W boson (the particle responsible for the weak nuclear force--i.e. radioactive decay, etc) has been challenging to say the least! I am trying to fit the "actual" formula (as predicted by the combined theories of Quantum Electro-Dynamics and the Theory of Weak Interactions) to the data. This involves creating a numerical model of the experiment's response to the mass of the W. Unfortunately, applying the formula to several batches of simulated data demonstrated that the analysis had some unexplained biases. As is typical in the world of science, progress is not always predictible (in fact, is usually unpredictible). This has led to some rather frustrating months having gone by with only little (if any) contributions towards my analysis of measuring the W mass. But in a flash, a moment's brief brilliance, an idea springs forth and the "Ah ha" syndrome is relived all over again ... such was the case last week when I realized that that I was not actually measuring the mass of the W boson but rather the average of the data's distribution! The fix, however, turned out to be nearly as bad as the problem: a 5-dimensional integral repeated over 10^4 times. Because the mesh of each dimension must be fine enough for the numerical integral to be a good approximation to the actual integral, the actual number of iterations that the computer will have to perform is on the order of 10^12. So, efficient programming code is becoming an absolute necessity. I am still hoping to finish by August, but hopes are beginning to dim just a bit. Nevertheless, my spirits are in great shape and I am enjoying the puzzle that nature is playing on me!"

James Davis (Karon)

James is enjoying teaching at Sunnydale Academy in Missouri. He recieved an unusual largesse of money from the Administration, and was able to buy a 5 mW laser. He put together a PowerPoint slide show for a church service, which was one of five on creation and astronomy.

Don Hall (Carol)

After devoting some years to the preparation of a textbook about Astronomy, Don finds out that the publisher has been bought out by a large publisher (which already markets an Astronomy text)!

Shandelle Henson

The _New Scientist_ of November 29, 1997, on p 19 carried a soaring article on Shandelle's work with her colleagues. It is titled "Boom time for beetles: Homes that shrink and grow can drive insect populations sky high."

"Flour beetles (Triboleum casteneum) survive indefinitely in bottles if they receive fresh flour regularly. Varying the amount of flour would be expected to have adverse effects on the beetles as they try to cope with the varying habitat size. 'There's a tenet in biology that says fluctuating habitats are not good,' says Jim Cushing, a mathematician at the University of Arizona in Tucson."

"But lab studies have shown that if the amount of flour is regularly varied above and below a given average, the population can sometimes end up dramatically higher than in bottles that contain the same average amount of flour all the time. Bob Costantino, a beetle expert at the University of Rhode Island in Kingston, says this has puzzled his research group for more than a decade. 'We didn't understand it at all,' he says."

"Now Cushing and his colleague Shandelle Henson have explained the puzzle by adapting equations that describe population changes in the wild to the beetle cultures. They found that if the frequency of habitat variations matched natural fluctuations in the beetle population, they could create a 'resonance.' This would boost population growth, much as a soprano can hit the resonant pitch of a crystal goblet and concentrate vibrations in the glass."

Carl Jansen (Marguerita)

Has been named Head of the San Bernardina Medican Center, and has recently received a prestigious Community Service Award.

Steven Kurti (Bianca)

Steve is not quite an "alumnus" yet: he will march at the May graduation ceremonies and finish up two courses in the summer.

The Kurtis have a place here because they are expecting a little Kurti soon!

Katie Linderman

"The National Boards and the Clinical Competency Exams [for veterinary

medicine] are over and my head hurts....but they are OVER!!"

Lizzie Harper-Nash

"Subject: Snowball fight [sent in December]

IT'S THE FIRST SNOWBALL FIGHT OF THE SEASON! CONSIDER YOURSELF HIT!!!

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You are now involved in an e-mail snowball fight. Send this to all your friends and relatives. Have fun with it. Remember in an online snowball fight no one gets hurt and no one gets cold and soaking wet. So, nail your friends before they nail you.

<HTML> version

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     You are now involved in an e-mail snowball fight.
Send this to

     all your friends and relatives. Have fun with it. Remember in an

     online snowball fight no one gets hurt and no one gets cold and

     soaking wet. So, nail your friends before they nail you.

 </HTML>"

Myrlene Marsaa (Mark)

The Marsas are expecting another small Marsa!

James Nelson (Becky)

"Hi! Long-time no see! Yes, there is big news, although you might have heard by now--there is another (albeit currently very small) Nelson in the works. We're toying with the idea of heading towards Atlanta for next year's contracting stint (that is, starting in June). California would be the other main choice. It depends a lot on sysadmin/netadmin demand."

James Robetson (Sherry)

James was featured in a recent issue of the Fletcher Academy's publiction _the Spirit_. It states, "Though many opportunities have arisen for Robertson in the field of research, he says that his drive has always led him to teach." It goes on to say, "...though there have been offers to teach at other schools including one on the University level, he [Robertson] says that God has led him against them all so far."

James has been named vice-principal, which means that he will be teaching two fewer classes and will be on call to make administrative decisions when the principal is off-Campus.

He will be attending the Graduade School of Education at SAU during July this summer, starting on a master's degree in School Administration.

Ray Paden

They have purchased a new home in Katy, Texas, a small town to the west of Houston. Its largely a bedroom community for Houston.

Ron Servoss

Ron is thinking about retirement!

Justin Stahl

"Hi again, Doc. I wasn't able to sit still long enough to write a longer letter last time, but I'll try now. I am at home here in Colville, working in a office supply store, doing some computer repair, etc. I am scheduled to leave for the Canvasback mission trip to the south pacific on April 18. Mostly I am working on making the money for the plane ticket."

Carroll Wheeler (Carol)

"Well, our sojourn in Florida is over. Yes, it is time to cross out our address again and write in a new one. We had been talking about moving

to Wisconsin for years."

Michelle Williams

"I continued to work in the Math dept at UD, but will finish there at the end of this week. I have decided to go back to work full-time for awhile, and perhaps finish my masters degree one class at a time--later."

"Kevin, my foster son, returned home to his mother about a month ago. We found out at the beginning of October that he'd be going back--we hoped sometime before Thanksgiving. Kevin began transitioning almost immediately, and for the remaining six weeks he was with me his behavior was like that of a yo-yo, and his emotions were on a perpetual roller coaster ride. My job in this whole situation was to attempt to keep things on a rather even keel. I don't regret having him stay with me, and I might do it again in the future, but for now I'm taking a break--much to the agency's dismay. They'd love to clone me, they said, as well as find another child for me to care for. I took it as a compliment, but have been firm in my decision to take a break!"

"As far as church involvement goes, I'm still in the choir, of course. Our wonderful Minister of Music changed the choir rehearsal time so a few of us who had work/school conflicts could be there. I was SO GLAD! This past Saturday night was our Oasis Christmas program. It went quite well. ("Oasis" is the contemporary service geared toward the unchurched and seekers. We have it (almost) every Saturday night.) I'm blessed to belong to a church which has such diverse strengths and believes in ministering to the needs of as many as possible, not just the needs of the majority or those with money. It's nice to be part of an evangelistic-minded group."

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