

College radar to help monitor solar storm

With the biggest solar flares in six years making news and causing concern around the globe, a facility at Fort Hays State University is paying dividends.

That is the SuperDARN radar arrays on FHSU grounds southwest of Hays. "Essentially," said Dr. John Heinrichs, chair of FHSU's Department of Geosciences, "it's a Doppler weather radar that looks at the highest levels of the atmosphere."

In an interview Thursday, Heinrichs was monitoring data in real time from the effects of the solar winds on the ionosphere.

"In fact," he said, "I'm looking right now at the SuperDARN plots and we can see where the effects are strongest." Thursday morning, that was north of Alaska, where there was a strong "anti-cyclonic rotation" (clockwise) in the ionosphere over Alaska and a strong counter-clockwise rotation over Iceland.

"Our location was chosen because we are right in the middle of the United States," monitoring the upper atmosphere from Alaska to Iceland.

"It turns out that the places showing the most activity today are right in the beam field of the Fort Hays State radar," he said.

The Fort Hays State antennas were constructed in 2009 and 2010 on a site at the northeast corner of the intersection of Golf Course Road and 210th Ave. Each of the two low-power, high-frequency radars has a total of two dozen 56-foot poles that support wire antennas over 42-foot gaps. The Fort Hays radar facility is funded as part of a National Science Foundation program called MSI, or Mid-Sized Infrastructure.

The Fort Hays installation was part of a \$6 million Science Foundation grant to build pairs of new radars at sites in Kansas, Oregon,

Alaska and the Azores. The overall project is a collaboration involving Virginia Tech, Blacksburg, Va., as the lead institution; Dartmouth College, Hanover, N.H.; the University of Alaska, Fairbanks; and the Johns Hopkins University Applied Physics Laboratory, Laurel, Md. Fort Hays' involvement is through the departments of geosciences and physics.

"These solar flares are like a big pulse of electrons and protons that are shot at the earth," said Heinrichs. "They actually cause the ionosphere to move - they cause weather in the ionosphere, like we have down here."

Looking at the data this morning, Heinrichs said, he was seeing in real time indications that the ionosphere was, in places, moving as fast as 2,000 meters, or roughly half a mile, per second. "I haven't seen movement this fast

since we've been receiving data," he said. "Ordinarily, velocities would be half that or a little less."

He said that the impact on the earth of these most recent flares has turned out to be a little less than was expected. "It's a little bit weaker than people thought it would be," he said.

At a "K rating" of 5, this is not the strongest possible storm, said Heinrichs. In storms with an intensity of 9, he said, "We would be able to see auroras here in Kansas. But with 5, the best viewing might be only as far south as Minnesota or Michigan."

"Fort Hays State is definitely contributing to a major international effort to monitor the effects of these storms," he said. "And the fact is we can get real time data now. We can actually watch as it happens. So we're having a direct effect in the study of these storms and their effects on earth."

Earth's magnetic fields protect the planet's surface from getting direct impact, but they do cause damage to electronics, to satellites, to communications and air travel.

"There are cases on record that such storms caused such a load on telegraph lines that telegraph keys would melt and cause fires," he said.

Another benefit to Fort Hays is for academics. The university has a student intern to maintain the site, and the Department of Geosciences and the Department of Physics has access to real-time data and pictures to use in class.

"When we teach a class that's about the atmosphere, we can use this data," he said.

The student intern, Randy Ouellette, a Fort Kent, Maine, senior majoring in geography, said his main job is maintaining the site. "I basically upkeep the integrity

of it," he said. "I make sure all the transmitters are up and running and working properly."

"It is a near perfect location for those antennas," he said, "but you have to battle the wind all the time."

He said it is a great opportunity to learn more about electronics in general and the physics of the upper atmosphere. "It's a great opportunity for any intern to get involved with a worldwide project like this," he said.

As for his career choices, that is a tough question, he said. "There are so many aspects to it. I would like to do something in environmental sciences, something that doesn't involve too many office hours, something that involves being out there in the field."

Beware of bogus tax refund schemes

ST LOUIS - The Internal Revenue Service today warned senior citizens and other taxpayers to beware of an emerging federal tax refund scam tempting victims to file tax returns claiming fraudulent refunds. Bogus refund claims have been identified across the nation with significant pockets of activity in at least six states, including California, Georgia, Michigan, Louisiana, Alabama and Indiana.

These schemes carry a common theme of promising refunds to people who have little or no income, and are normally not required to file a federal income tax return. Promoters falsely claim they can obtain a tax refund or nonexistent stimulus payment for their victims based on the American Opportunity Tax Credit, even if the victim was not enrolled in or paying for college.

Typically, con artists falsely claim that refunds are available even if the victim never went to college, or attended decades ago. In many cases, scammers are targeting seniors, people with very low incomes and members of church congregations with false promises of free money.

"Most of these scams involve promoters who prey upon people in need, building false hopes. When victims' claims are rejected, their money and the promoters are long

gone," said IRS spokesman Michael Devine. "We want to warn the public to be on guard and stop this new scheme before more innocent people are victimized," Devine added.

The IRS has already detected and stopped thousands of these bogus refund claims in recent weeks. The agency is actively investigating the sources of this scheme, and its promoters can be subject to criminal prosecution.

These schemes can be quite costly for victims as promoters may charge exorbitant upfront fees to file their claim. Some promoters of these scams have charged victims \$500 for a bogus \$1,000 credit. All taxpayers, including those who use paid tax preparers, are legally responsible for the accuracy of their returns, and must repay any refunds received in error, plus any interest and applicable penalties. Those who intentionally try to defraud the government may face criminal prosecution.

Taxpayers should beware of any of the following to avoid becoming ensnared in these schemes:

- Fictitious claims for refunds or rebates based on false statements of entitlement to tax credits.
- Unfamiliar for-profit tax services selling refund and credit

schemes to the membership of local churches.

- Internet solicitations that direct individuals to toll-free numbers and then solicit social security numbers.

- Homemade flyers and brochures implying credits or refunds are available without proof of eligibility.

- Offers of free money with no documentation required.

- Promises of refunds for "Low Income - No Documents Tax Returns."

- Claims for the expired Economic Recovery Credit Program or for economic stimulus payments.

- Unsolicited offers to prepare a return and split the refund.

- Unfamiliar return preparation firms soliciting business from cities outside of the normal business or commuting area.

These refund schemes feature many of the warning signs IRS cautions taxpayers to watch for when choosing a tax preparer. For advice on choosing a competent tax professional, see Tips for Choosing a Tax Return Preparer on IRS.gov. To get the facts on tax benefits related to education, go to the Tax Benefits for Education Information Center on IRS.gov.

Group to recruit, train volunteers to find fraud

The Kansas Department of Aging, Senior Medicare Patrol are partnering with Northwest Kansas Area Agency on Aging to recruit and train individuals interested in fighting Medicare and Medicaid fraud. The patrol is a federally funded national endeavor created to help Medicare and Medicaid beneficiaries protect, detect and report health care fraud. Since its inception in 1997, the patrol is credited with saving taxpayers more than \$100 million.

Volunteers serve a vital role in the program. Each volunteer receives extensive training which includes the patrol mission, Medi-

care basics and how to recognize and report Medicare fraud. Upon completion, volunteers will have the tools and support needed to assist seniors in the community protect their personal information, detect suspicious activities and report their concerns.

The patrol asks volunteers to serve in a number of ways. Opportunities include activities that range from distributing materials such as brochures, flyers and handouts, to activities that allow volunteers to meet with beneficiaries and answer simple questions or to connect them with the right person to answer more complex

questions. The staff will meet with volunteers individually to ensure that volunteers are given an opportunity to serve in a capacity that fits their time, interests, location and strengths.

Northwest Kansas Area Agency on Aging is currently accepting applications to be reviewed and processed by the Kansas Department on Aging Senior Medicare Patrol. To obtain an application contact Glenna Clingingsmith at (785) 296-0377 or Nikki Noe, Senior Medicare Patrol Program Administrator at (785) 296-0377 or email Nikki.Noe@aging.ks.gov.

matters of record

Real Estate

The following real estate transactions have been reported by the Sherman County register of deeds.

Sherry Lou Bandel and Ronald Bruce Cowan, Successor Co-Trustees of the Robert Duane Cowan and Dorothy Martha Cowan Living

Trust, to William Olsen and Jolene Olsen, the S/2 of Lot 4, all of Lots 5 and 6, Block 38, Beahm's Addition to City of Goodland; S21' of Lot 9, all of Lots 10, 11 and 12, Block 48, Second Addition to City of Goodland.

Patricia K. Howe quit claims to

Shawn G. Howe, Lots 16, 17 and S8' of Lots 18, Block 5, CK&N Addition to City of Goodland.

Patricia K. Howe and John J. Howe quit claim to John J. Howe, the N14' of Lot 21 and all of lots 22, 23 and 24, Block 3, CK&N Addition to City of Goodland.

FUN BY THE NUMBERS

	5		2					
1		7						
			8		3		1	
9					5			
6		2		9		1		
	4						8	
		6		8		4	3	
					9	8		
	9	7	4					

Level: Advanced

Like puzzles? Then you'll love sudoku. This mind-bending puzzle will have you hooked from the moment you square off, so sharpen your pencil and put your sudoku savvy to the test!

Here's How It Works:

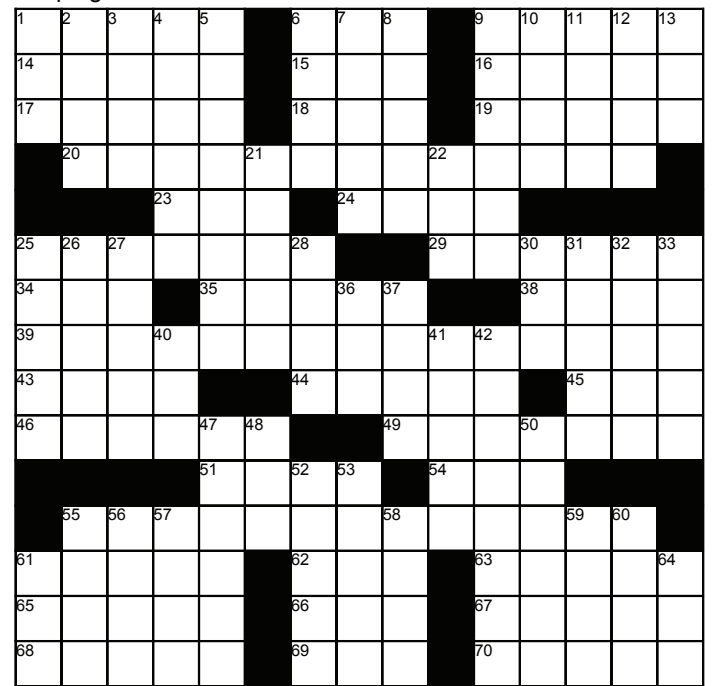
Sudoku puzzles are formatted as a 9x9 grid, broken down into nine 3x3 boxes. To solve a sudoku, the numbers 1 through 9 must fill each row, column and box. You can figure out the order in which the numbers will appear by using the numeric clues already provided in the boxes. The more numbers you name, the easier it gets to solve the puzzle!

Crossword Puzzle

Keeping Time

ACROSS

- Airline that introduced transatlantic service, for short
- Número ___ (first-rate)
- Not these
- Safe havens
- Component of solder
- Words to a hitchhiker
- Reef material
- Rambler mfr.
- "Dallas" family name
- Working stiff's stint, perhaps
- Lyricist Gershwin
- Slangy affirmative
- Coming into existence
- Fertilizer ingredient
- Bunyan's tool
- Squirrel's snack
- Height: Prefix
- Officer Candidate School grad, perhaps
- ___ Nostra
- Cul-___ (dead-end street)
- She raised Cain
- Exit one's cocoon
- Lou Grant portrayer
- Easy victory
- Before, to bards
- 1955 Marilyn Monroe movie, with "The"
- 38th parallel land
- Chemist's hangout
- "The Highwayman" poet Alfred
- Gather together
- Right-angle bend
- Film cowboy Gene
- Irascible
- Get the picture
- Acknowledged the national anthem



American Profile Hometown Content

3/11/2012

DOWN

- DC fund-raising org.
- Dating from
- "Stoney End" composer Laura
- He sacked Rome in 410
- Subject to abuse
- Brigham Young's state
- Spock portrayer Leonard
- When prompted
- "Tommy" band
- Hockey great Gordie
- Sheriff Taylor's kid
- Drop to the bottom
- Chang's Siamese twin
- Old TV's "___ Derringer"
- Séance sound
- 1933-41 veep John ___ Garner
- Self-evident truth
- Touch or taste
- Sondheim's "Sweeney ___"
- Beachgoer's acquisition
- Pilgrim John, who courted Priscilla
- Martin or McQueen
- Job offerer
- Charlotte of "Bananas"
- AMEX counterpart
- Corn unit
- One in the kiddie pool, perhaps
- Ovoid wind instruments
- Old TV's "___ spoon (diner)"
- Forever and a day, seemingly
- Embark, as on a journey
- "Black Velvet" singer Alannah ___
- Family of early American painters
- "You've got ___ nerve!"
- Bull pen stats
- One piece of a three-piece suit
- Up to the job
- Prefix meaning "cell"
- Hefty sandwich
- Herriman's "Krazy" feline
- One of the Chaplins

The crossword puzzle brought to you by:

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