



NuMI-MINOS Status Report — Bob Zwaska

All Exp Mtg
Feb 9. 2009

NEAR DETECTOR:

- Magnet tripped off on Friday
 - Temperature excursion (down) also caused LCW to stop circulating
 - System up and running within a few hours
 - Cause of the trip not yet understand
 - Low temperature trip limits may be relaxed
- 2 electronics seaps to reduce noise
- Magnetic field turned FORWARD as of Feb 2

Proton-weighted Live-time:

Week 1: 98.19%



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FAR DETECTOR:

- Network switch problems
 - Power supply failed
 - 2 bad sockets caused confusion
 - Switches are old and we would like to replace them
 - Probably needs to be done at the shutdown

Proton-weighted Live-time: 99.69 %

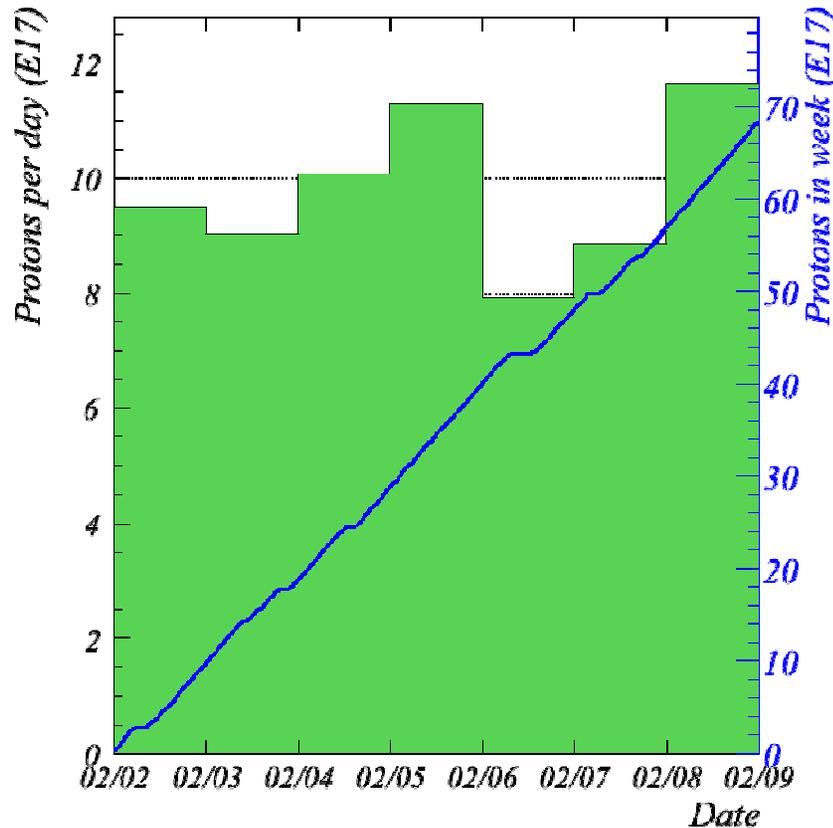
Wall-clock Live-time: 98.86 %



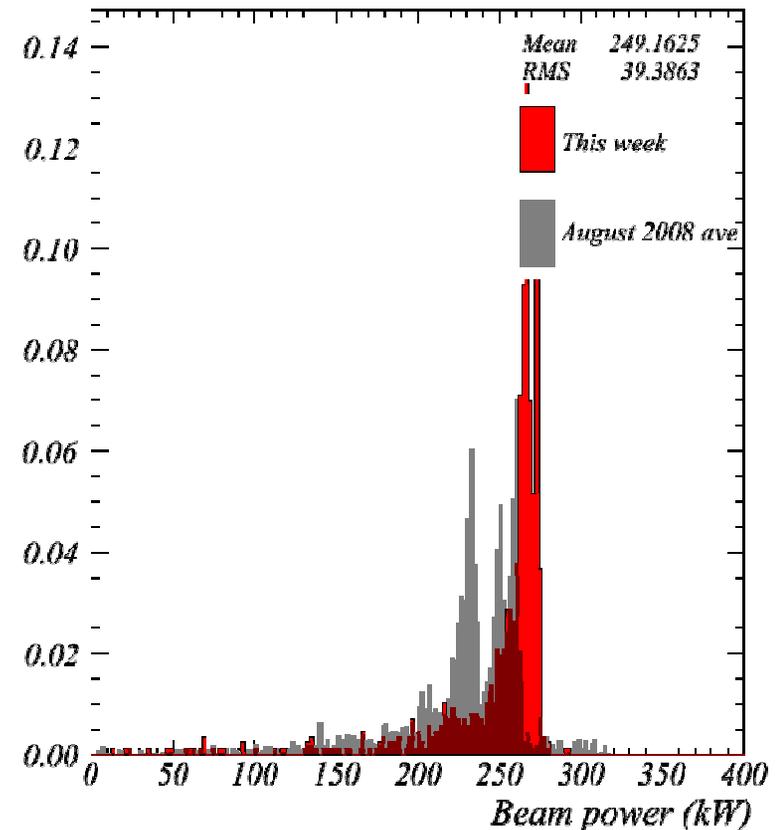
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- 68e17 protons for the week
- Very good beam power
- Beam ran well except for accelerator down time\

Week to 00:00 Monday 09 February 2009



Week ending 00:00 Monday 09 February 2009



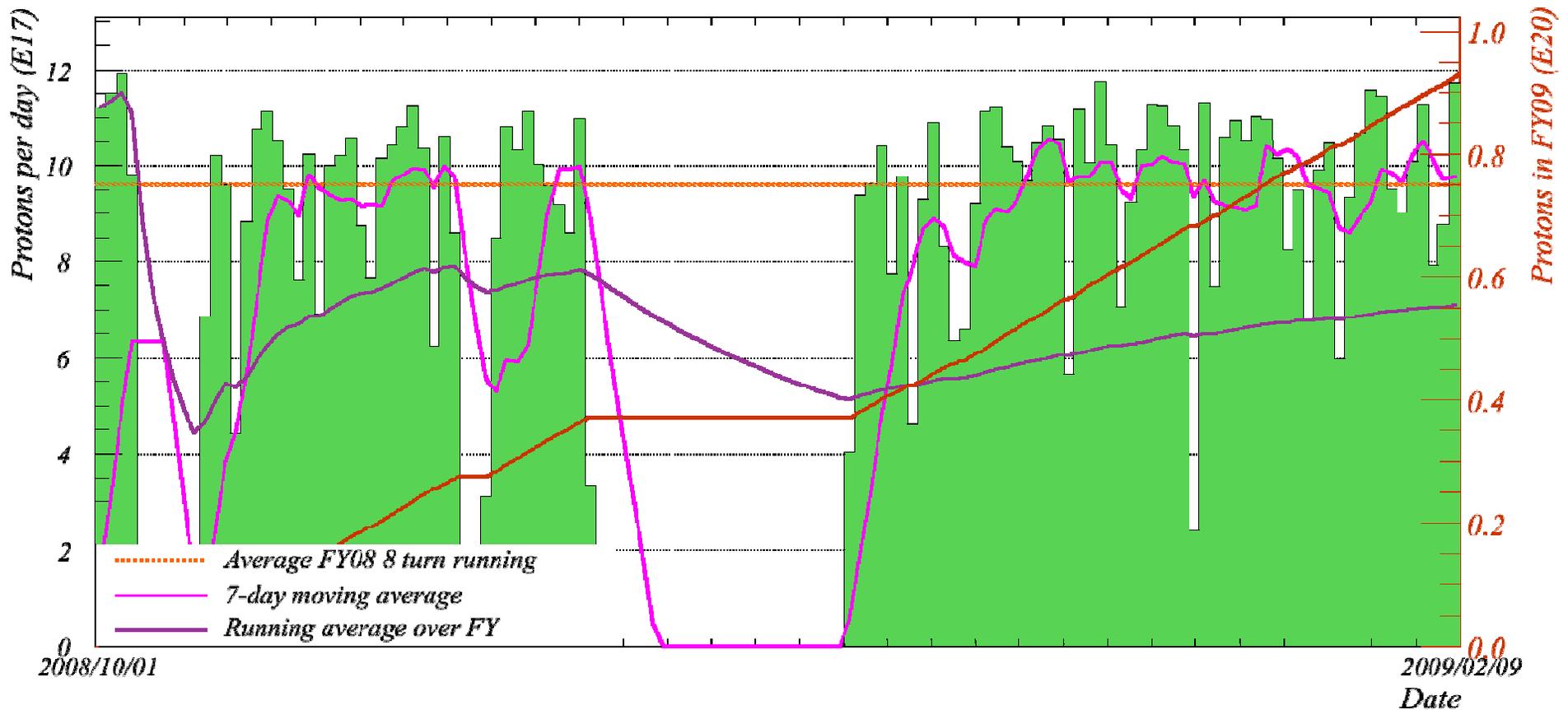


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- Fiscal year

FY09 NuMI protons to 00:00 Monday 09 February 2009

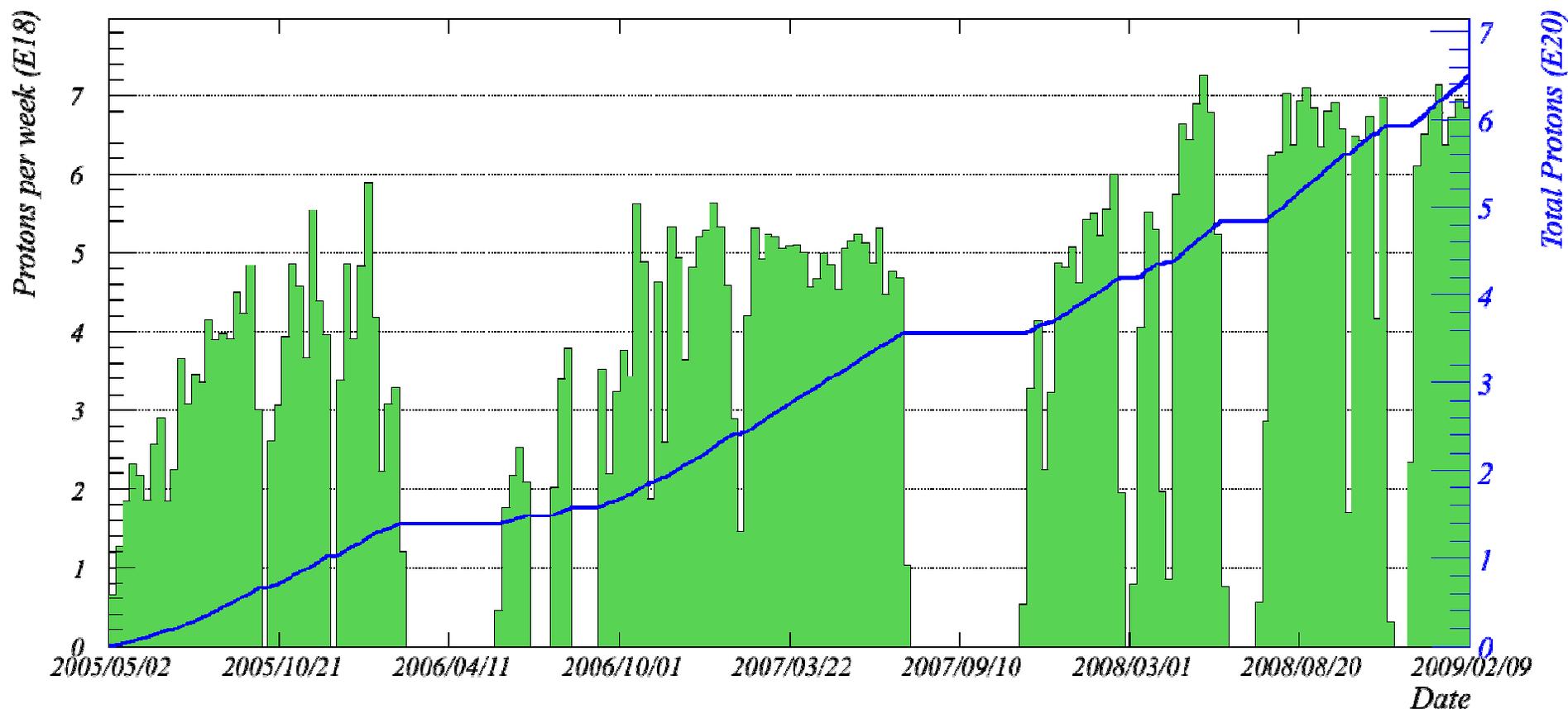




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- Entire Run

Total NuMI protons to 00:00 Monday 09 February 2009



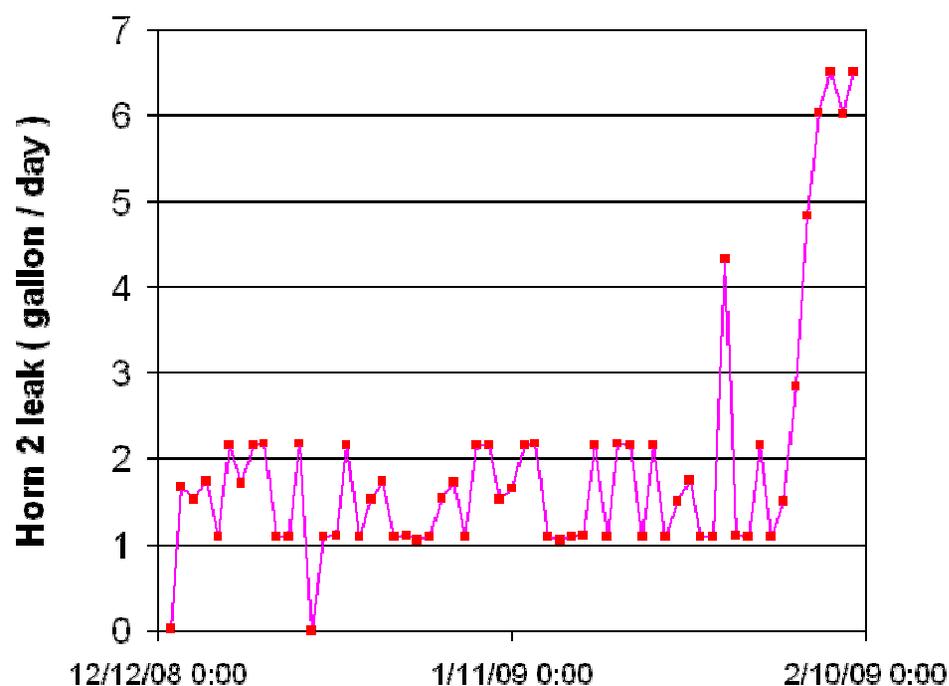


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HORN 2 COOLING WATER:

- Have had a 1-2 gal/day leak
- Increased to 6 gal/day last weeks
- Leak is suspected to be in a line just inside of the shielding steel
 - Would require a ~ 5 day shutdown
 - Only a 1-2 day job, but needs crane, cool down, sealing, ...
- Water is refilled manually
- Leaked water is removed by dehumidifiers
- Hope to continue, like this, until June
- We can withstand up to 18-20 gal/day before it is an operation burden



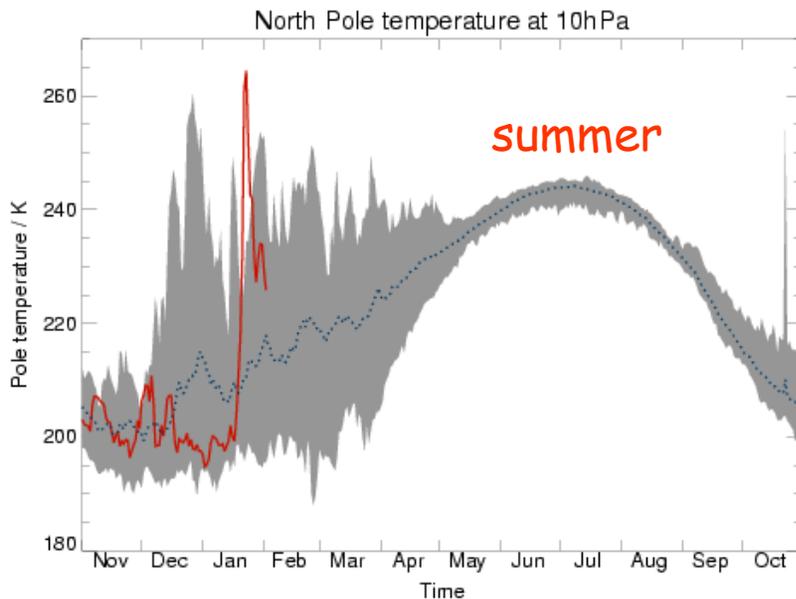
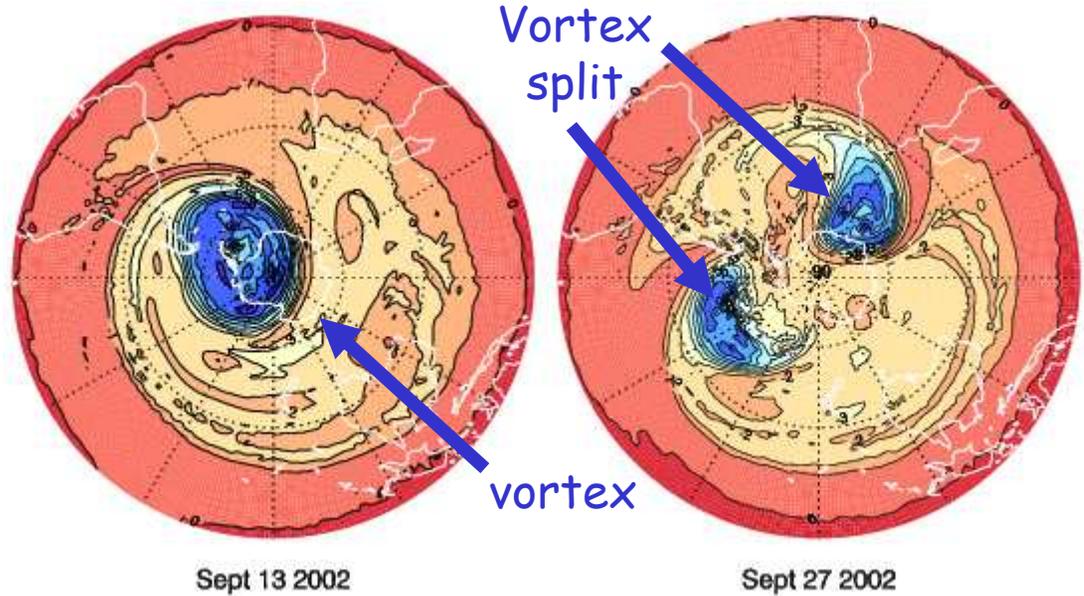


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In September 2002, the Southern Hemisphere stratospheric vortex split in two. This was a wave-2 Sudden Stratospheric Warming (SSW) - the first of its kind seen in the Southern Hemisphere

Polar temperatures rose by 40K and vortex winds changed direction over pole



Three weeks ago, the Northern Hemisphere stratospheric vortex split in two. This was also a wave-2 SSW

Polar temperatures rose by 60K and polar winds changed by 225 miles per hour over a few days!

-Scott Osprey (Oxford)



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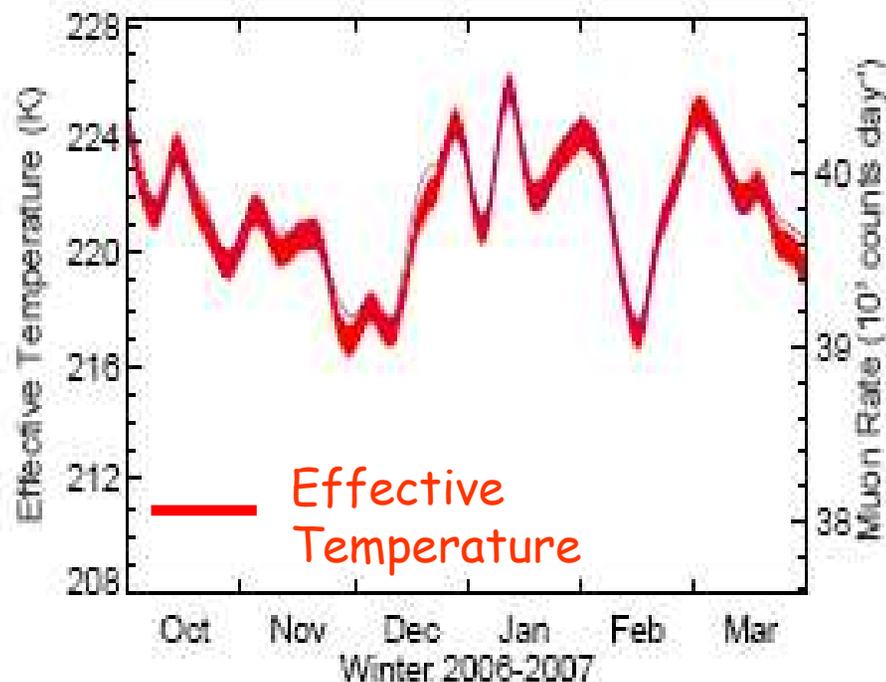
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Time series of cosmic muons from the MINOS Far detector show a close correlation with upper air temperature (right)

Weaker SSW events seen in years 2003-present

Possibly largest SSW recorded has just occurred

What have the MINOS Near and Far detectors seen?



NCAS & MINOS 2009 (*GRL*, Accepted)

-Scott Osprey (Oxford)