

SNEWS2.0 Fire drills

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SNEWS2.0 Collaboration Meeting

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In 2003, a SNEWS test alert went out through AstroAlert:

This *Sky & Telescope* AstroAlert is being issued [as a test] in support of the SuperNova Early Warning System (SNEWS). We seek your assistance in pinpointing the location of a possible supernova explosion. Neutrino detectors give the target's approximate coordinates (equinox 2000.0) in the constellation Boötes, as follows:

Right ascension: $13^{\text{h}} 38^{\text{m}}$

Declination: $+8.1^{\circ}$

Uncertainty radius: 13°

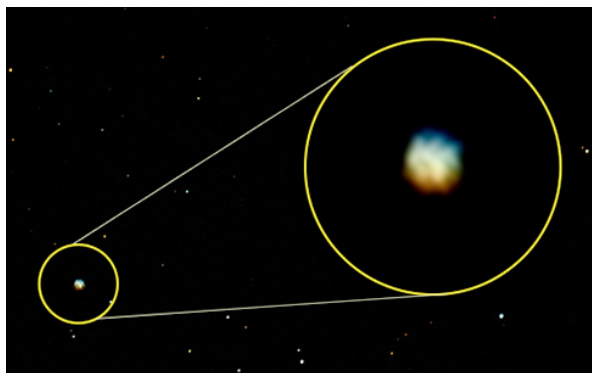
Expected magnitude: unknown

Please check this region of the sky as soon as possible using your naked eyes, binoculars, a telescope, or a camera. You are looking for a starlike point of light...

83 responses from 15 countries



A real “candidate” in the search region:
the asteroid Vesta



Lessons learned:

- 70% of respondents saw the message within 8 hours
- Most respondents had overcast skies and were not able to search, also issue with bright moon, cold temperatures
- 16 people did extended search (average time of 42 minutes)
- 6 people identified Vesta as the target

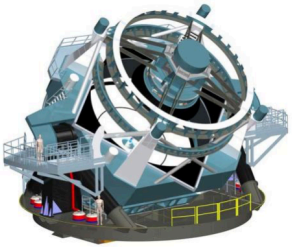
Case study: Regular supernova alerts at Super-K

- A SN drill ~ once per month
- Blind to shift-takers
- Just like for a real supernova, the shifters have to follow a set of instructions on screen: Check histograms, call experts
- Probably outside of the scope of SNEWS, but we could use this as a platform to discuss how we can improve our individual experimental procedures

Shift takers as depicted on the Super-Kamiokande website



Case study: Recent LSST data challenge



PHOTOMETRIC LSST ASTRONOMICAL TIME-SERIES CLASSIFICATION CHALLENGE (PLASTICC)

Updates on PLAsTiCC preparation!

We're happy to announce that the preliminary dataset for the Photometric LSST Astronomical Time-series Classification Challenge (PLAsTiCC) has been submitted to [Kaggle](#).

While the data has been scrutinized heavily internally, Kaggle's data scientists will begin their own validation of the dataset, and PLAsTiCC team members will work with Kaggle to address any remaining concerns.

We aim to begin the public challenge on Kaggle in midsummer, and it will run for three months through Fall 2018 (exact dates are under negotiation).

Interface with the outreach team on a (scaled down?) version of a data challenge?

Different levels of fire drill tests

Are SNEWS alerts being sent when they should?



Are experiments sending info to SNEWS when they should?



What physics can be extracted?

Are our MM partners ready?



Full end-to-end fire drill? Could be a publication!

Other aspects of fire drills

- Smaller drills within one or two groups (implementation, detector response, multimessenger)?
- Also, could be a place to share experiences for how different experiments deal with readiness (fire drills within experiments)

Question for discussion from the groups

- What would a useful fire drill look like to test the machinery within in your subgroup?
- What would you need from other subgroups to make this happen?
- What milestone would you like to pass within your own subgroup before a fire drill happened?
- What kind of timeline do you foresee for running fire drills within your group?

But these are just a starting point, I would like to use this time to brainstorm ideas for what fire drills could look like for the various subgroups