



**ASTEROID MISSION
GEARS UP FOR LAUNCH**
NASA mission leaders hope
Dawn will rise on time.
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The great gig in the South

When Al Gore and his colleagues dreamed up the idea of a climate-change consciousness-raising Live Earth event featuring concerts on every continent, they came up against a problem. The event's 7 July date corresponds with midwinter in the Antarctic, when no one gets on or off the seventh continent. So flying in Bono and Madonna to frolic with penguins would not be an option.

Enter Nunatak, a five-strong band of guitar, bass, drums, fiddle and sax, whose members are part of the crew at the Rothera Research Station, run by the British Antarctic Survey (BAS).

It is not the only band on the continent. Every New Year's Day, the US McMurdo base hosts the Icestock festival, and even in winter there's plenty of music. "All the bases have bands except maybe Bird Island, as there are only four overwintering people there," explains Julius Rix at the BAS's more southerly Halley base. But being the farthest north of the bigger bases gives Nunatak an advantage. "Rothera has double the satellite bandwidth compared to us," says Rix. And so Nunatak got the gig.

Even so, the webcam set-up on Rothera isn't quite up to sending broadcast-quality sound and visuals live to the world. "To do it live we would need a very fast satellite link," says Matt Balmer, an electronics engineer and Nunatak's guitarist and songwriter. So

the performance will be recorded 'as live' a day or so beforehand. "We're effectively e-mailing it in," says Balmer.

Despite the technical delay, the performance should be pretty authentic. The band plans to perform outside — which might make their instruments "sound a bit funny", according to the BAS's Linda Capper, back in balmy Cambridge, UK, notwithstanding the rigours faced by the performers.

Balmer is tough enough to dismiss such worries: "It's only minus six outside; you get used to these sorts of temperatures."

"They will be throwing their underwear."

Nor does the prospect of a global audience chill him, in part because it doesn't feel that real. "We don't

have an appreciation of it," says Balmer. "We see the world through the Internet." The last ship out of Rothera left in April. "Until October we won't see anybody else."

Saxophonist and marine biologist Alison Massey expects the rest of the base to be an appreciative audience, not least because after weeks of rehearsal at close quarters, "it will be the last time they'll hear the songs". Balmer hopes for something a bit more rock and roll. "There will probably be groupies throwing their underwear at us," he says. With only 17 people in the audience, though, matching the knickers to the punters may not be too hard. ■
Katharine Sanderson

particle-physics laboratory near Geneva in Switzerland, who is leading an experiment aimed at simulating the effect of cosmic rays on clouds. "Past climate changes have clearly been associated with solar activity. Even if this is not the case now, it is still important to understand how solar variability affects climate."

Ken Carslaw, an atmospheric scientist at the University of Leeds, UK, points out that solar effects might still be possible. They might have acted to cool the climate in recent decades, but been overwhelmed. If so, the climate could be more sensitive to greenhouse gases than is generally thought, and future temperature increases might be greater than expected if a countervailing solar effect comes to an end. ■
Quirin Schiermeier

provided evidence for the reality of the cut-off. The new Pierre Auger data seem to confirm that the cut-off is real.

If there is no new physics in the form of particle decays or other exotic effects, though, there should be plenty of new astrophysics in understanding what sort of celestial mechanism might be pumping up incoming protons to energies millions of times higher than those produced by the most powerful Earth-based accelerators. One crucial step is to identify where in the sky they are coming from. Alan Watson of the University of Leeds, UK, a spokesman for the Pierre Auger project, says that the team has identified some interesting candidate regions of the sky, but won't reveal the details until it has obtained more data. "Unless I talk in my sleep, even my wife doesn't know what these regions are," he says. ■

Jenny Hogan



Antarctic brass monkeys: Nunatak will perform in sub-zero temperatures for Live Earth.

W. BURGESS/REUTERS

BRITISH ANTARCTIC SURVEY