

Whatever happened to...

i In which we explore current developments in subjects of interest to *FT* readers, present the latest news about expeditions, or catch up with the most intriguing people in the world...

13. The antigravity machine

In 1996 Dr Eugene (Evguen) Podkletnov (below) caused a brief stir in the popular press¹ following his sudden withdrawal of a scientific paper immediately prior to publication.² The paper described, apparently, an gravity shielding effect observed when a high-temperature superconductor was rotated in a strong magnetic field.

In fact, his accidental discovery occurred in 1992, when a colleague's pipe smoke rose suddenly as it drifted over his test apparatus, and was described in an earlier, published paper.³ In the intervening four years, improvements in the apparatus increased the observed weight reduction from a fraction of one per cent to a maximum of two per cent.

Such claims were too much for his university at Tampere, Finland,⁴ so much so that, following the withdrawal of the 1996 paper, they denied knowledge of his work and dismantled his experimental apparatus. Save for a brief appearance in a 1998 German documentary,⁵ little has been seen or heard of the man himself since... although several amateur attempts⁶ at replication of his work and a few more formal studies have taken place. He has been appointed consultant to several groups – the best known being 'Project Delta-G' led by Dr Ning Li of the University of Alabama at Huntsville,⁷ funded by the NASA Breakthrough Propulsion Physics programme.⁸

I met Dr Podkletnov during his recent visit to the UK to provide assistance to a group at the University of Sheffield which is examining aspects of his work. He freely admits not being an expert in gravitational physics – he is a materials scientist with a special interest in superconductivity. While he would like to study the 'anti-gravity' effect full-time, funding has not been forthcoming, so he continues to teach materials science at another university in Tampere.

Following discussions with theoreticians like Giovanni Modanese,⁹ he has refined his ideas somewhat. The effect is now referred to as gravity "modification" rather than "shielding" due to the shape of the affected region – cylindrical rather than conical, as a shield would produce. The effect, he claims, appears to be a result of interaction between the superconducting 'Cooper pairs' of the surface and the 'normal' electrons of the lower layers.

Replication work is underway in Russia, Italy, the USA and now the UK. While not greatly forthcoming about the precise details of the Russian experience, he did state that a weight reduction of five per cent had now been achieved by counter-rotation of the superconductor and magnetic field. By stacking discs, it is possible to magnify the effect, so long as the discs rotate in the same direction, otherwise the effect is cancelled.

He is enthusiastic about the theoretical work

on GWASERS (the gravitational equivalent of lasers) done in Italy by Modanese and Giorgio Fontana.¹⁰ He also finds agreement with Jerry Bayles¹¹ and with Russian Academician Akimov's ideas about torsion fields.¹² Podkletnov's critics have so far made no serious attempt to debunk his work and he feels confident that he has done his best to minimise sources of experimental error.



Current research is still at an early stage and nowhere near producing a marketable device. It remains unclear whether the effect represents a reduction of gravitational or inertial mass. Podkletnov hopes to publish a paper in the near future, which may well be based on the Russian efforts with which he seems to be most closely involved. As with many areas on the fringes of science, Russians seem to be taking the lead.¹³ When questioned about this, he replied simply: "It is because they have nothing to lose."

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REFERENCES

1. *Sunday Telegraph* (1 Sept 1996, p3), *New Scientist* (21 Sept 1996, p7), FT96:26–29.
2. HTML version available at www.gravity.org/msu.html
3. E Podkletnov and R Nieminen, A possibility of gravitational force shielding by bulk YBaCuO_{7-x} superconductor in Physics C (Elsevier Science Publishers, Holland, 1992, v209, pp441–4).
4. The Technical University of Tampere: www.tut.fi
5. English transcript and video stills at www.inetarena.com/~noetic/pls/Gallery/pioneer.htm
6. Lists of experimenters and results at www.inetarena.com/~noetic/pls/exp.html
7. Pictures and (old) info at cpar.uah.edu/www/research/gravity.html#GMCOD
8. Details of supported projects at www.gpc.nasa.gov/WWW/bpp/
9. Links to Modanese's papers at www.gravity.org
10. Links to relevant papers at alpha.science.unimn.it/~fontana
11. Downloadable book at www.electrogravity.com/GRAWBOOK
12. See, for example, the paper at www.linnet.lv/firms/project/russian/torsion.htm
13. CD-ROM with video demonstrations available from www.geocities.com/ResearchTriangle/Station/8158/od.htm

RESOURCES



RECOMMENDED SURFING

KEY WEBSITE ON THIS SUBJECT

www.inetarena.com/~noetic/pls/gravity.html
Pete Skeggs' 'Quantum Cavariate' with lots of history and background to the "Podkletnov affair".
www.gravity.org
The Gravity Society homepage with links to theoretical background material

FORTEAN FOLLOW-UPS

In which we return to some of the stories reported in the pages of *Fortean Times*...

AWAKENING THE DEAD [FT56:38-40]



The *famadhibana*, literally "the turning of the corpses," is central to Madagascar's strong tradition of ancestor worship. The *famadhibana* continues to be performed, but as the ceremonies cost years of a family's savings, intense poverty is forcing many Malagasy to opt for less elaborate rites. [AP] 16 Dec 1999.

HALE-BOPP'S COMPANION [FT97:42, 100:43]



When the Heaven's Gate group committed suicide in March 1997, they announced that their souls would continue their journey on a spacecraft travelling behind the comet Hale-Bopp, then lighting up the world's skies.

Much of the speculation surrounding this craft was based on information provided by the Farsight Institute, a remote viewing group headed by Courtney Brown. The group had been analysing photographs taken at the University of Hawaii, which purported to show an object travelling with the comet. Photographs taken by the Japanese National Observatory revealed something similar. It was later announced that the photographs had been faked. But, in a curious footnote to the affair, a NASA physicist has announced that Hale-Bopp does indeed have a cosmic companion, a moon – the first such cometary satellite to be discovered.

Jet Propulsion Laboratory astrophysicist Zdenek Sekanina analysed several Hubble space telescope photographs of the comet and found what appeared to be the same object in five of them. He claims that his discovery will allow him to work out the comet's mass. Many observers remain sceptical, including Harold Weaver, the astrophysicist who supplied Sekanina with the images. "He's just trying to squeeze too much out of the data," says Weaver, who thinks that he should have been able to see the object while observing the comet through Hubble. However, Sekanina does have his supporters. Harvard astronomer Brian Marsden has calculated that, 4200 years ago, Hale-Bopp may have passed close enough to Jupiter to fragment, so creating the moon. *New Scientist*, 11 Dec 1999.

If you have any suggestions for topics you would like to see covered in this section, or if you have any information, send them to the address on page 60 or email them to rickard@forteanimes.com with "Whatever happened" in the subject line.