

unaware of my old paper published back in 1963.¹ The diagram of the apparatus in the PHYSICS TODAY story and the corresponding diagram in my paper show almost identical designs. Apart from the Helmholtz coils needed for a dynamo seed field, both figures show two propellers driving the liquid metal in opposite directions. My paper was stimulated by the pioneering work of Walter M. Elsasser.

Reference

1. F. Winterberg, *Phys. Rev.* **131**, 29 (1963).
Friedwardt Winterberg
(winterbe@physics.unr.edu)
University of Nevada, Reno

[Editor's note: Daniel Lathrop, one of the researchers consulted for the original story, was invited to respond to Friedwardt Winterberg's comments.]

Lathrop comments: After the first two successful liquid metal dynamos,¹ there has been considerable recent activity in experiments seeking dynamo action in less constrained flows.² Much initial motivation for these experiments had been the work of Martin L. Dudley and Ronald W. James³ from 1989. It is clear now, in hindsight, that Winterberg's 1963 paper⁴ predates these experimental attempts and much of the earlier motivating theory. His paper gives a detailed analysis of different experimental possibilities for probing dynamo action using liquid metals.

Plainly, it has been an oversight of the community to not have recognized Winterberg's contribution before now.

References

1. A. Gailitis et al., *Phys. Rev. Lett.* **86**, 3024 (2001); R. Stieglitz, Ü. Müller, *Phys. Fluids* **13**, 561 (2001).
2. P. Odier, J.-F. Pinton, S. Fauve, *Phys. Rev. E* **58**, 7397 (1998); N. L. Peffley, A. Cawthorne, D. Lathrop, *Phys. Rev. E* **61**, 5287 (2000); E. J. Spence et al., *Phys. Rev. Lett.* **96**, 055002 (2006).
3. M. L. Dudley, R. W. James, *Proc. R. Soc. A* **425**, 407 (1989).
4. F. Winterberg, *Phys. Rev.* **131**, 29 (1963).

Daniel Lathrop
(lathrop@umd.edu)
University of Maryland, College Park

nor the Relativistic Heavy Ion Collider at Brookhaven National Laboratory."

Placing RHIC in this context is odd since the NRC report nowhere mentions it. RHIC is funded by the Office of Nuclear Physics in the US Department of Energy's Office of Science, not by the Office of High Energy Physics, for which the NRC committee was charged with recommending priorities for the next 15 years.

More important, the notion that RHIC is "unlikely to outlive the decade" is misbegotten. The scientific impact of RHIC has been outstanding; its discovery of the "perfect liquid" of quarks and gluons was named the number-one physics story of 2005 by the American Institute of Physics publication *Physics News Update* and garnered media coverage around the world.

Brookhaven National Laboratory is currently working with the Office of Nuclear Physics to implement for RHIC a strategy for the period 2006–11 aimed at a 10-fold luminosity upgrade and detector upgrades. This strategy will place RHIC at the forefront of research in high-temperature quantum chromodynamics (QCD) for at least another 10 years. Furthermore, RHIC is the first and only hadron collider with the ability to accelerate, store, and collide polarized protons at energies up to 500 GeV in the center-of-mass frame. It therefore provides unique opportunities to study the spin content of the nucleon—a program that also will extend into the next decade.

Beyond that is the prospect of using RHIC as the basis for a polarized electron-ion collider, an option for an international next-generation facility for the study of QCD. That option will be discussed by the Nuclear Science Advisory Committee in 2007 as it develops its long-range plan for the field. If longevity is based on compelling science to be done, such a QCD facility—with ion-ion, proton-ion, polarized proton-proton, polarized electron-proton, and electron-ion collisions at high energy—would likely outlive the next decade.

Sam Aronson
(samaronson@bnl.gov)
Brookhaven National Laboratory
Upton, New York

RHIC's future looks bright

Bertram Schwarzschild's Issues and Events piece on the National Research Council's report *Revealing the Hidden Nature of Space and Time* (PHYSICS TODAY, June 2006, page 26) states, "Fermilab's Tevatron is unlikely to outlive the decade. Neither is the PEP-II asymmetric electron-positron collider at SLAC

Correction

June 2006, page 16—The description of opal's chemical composition is wrong. Opals contain very little calcium carbonate. Their chemical formula is $\text{SiO}_2 \cdot n\text{H}_2\text{O}$, where n is usually between 0.5 and 2. Thanks to Andrew Locock of the University of Alberta in Edmonton for pointing out the mistake. ■