

contributions to both physics and society. In physics it covered his work in astro-, nuclear, and condensed matter physics and in quantum electrodynamics. Perhaps not as well known were his extraordinary contributions to atomic physics. Our recent article discusses this aspect of his voluminous output.¹ It covers his seminal work on the stability of the negative hydrogen ion; details of his atomic-physics calculations regarding the Lamb shift; aspects of his important work in collision theory, especially his work in stopping power; several important aspects of atomic physics related to crystalline solids; and his books and review articles in the field.

Reference

1. M. Inokuti, B. Bederson, *Phys. Scr.* **73**, C98 (2006).

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I am a student from India now working on my PhD in chemistry at Emory University in Atlanta, Georgia. I am also deeply interested in the history of modern physics, and Hans Bethe was one of my favorite scientists. Saddened by his passing, I wrote a 12-page, spur-of-the-moment biography, mostly from my memory of the things I had read and heard about him. To me, Bethe will always be an exceptional example of the ideal scientist-citizen. He set the standards for the rest of us both in his scientific work and in his efforts towards arms control.

The influence of science and scientists really transcends time, nationalities, and generations. Every person on the street may not be familiar with Bethe and his work, but I am certain that he and others of his stature have, in many subtle ways, inspired young people like me to pursue careers in science and to be more conscientious citizens of the world. I believe that this often unseen, subtle, and deep influence of science and scientists fuels the engines of conscience and progress. Those who want reassurance about the enduring benefits of science as an instrument of rationality and social enlightenment need not look very far.

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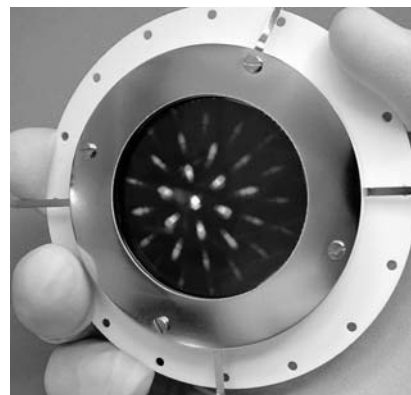
Gottfried comments: I erred in not including an article on Hans Bethe's work in solid-state physics in the special issue. *PHYSICS TODAY* published "A Conversation About Solid-State Physics" by Bethe and N. David Mermin in its June 2004 issue (page 53). And fortunately, an excellent article by Mermin and Neil W. Ashcroft was published recently: "Hans Bethe's Contributions to Solid-State Physics," in *Hans Bethe and His Physics* (World Scientific, 2006, p. 189).

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NASA's mission of space exploration: Some fine points

Roger Blandford's Reference Frame titled "Exploring the Universe" (*PHYSICS TODAY*, April 2005, page 10) summarizes many of his concerns regarding NASA's plans for astronomy and space science in the context of President Bush's vision for space exploration. As Blandford notes, given the long list of ambitious space telescopes in NASA's plans, clearly priorities need to be set, and some astronomers worry that "programs with a connection to life will be favored over fundamental investigations in the inanimate, physical sciences." The president's vision explicitly calls for NASA to "conduct advanced telescope searches for Earth-like planets and habitable environments around other stars"¹ and categorizes future NASA missions such as the *Space Interferometry Mission* and the *Terrestrial Planet Finder* as high-priority and life-oriented. Blandford states, "The discovery of extrasolar planets, 150 and counting, demonstrates that our solar system is unrepresentative with immediate consequences for the quest for extraterrestrial life." This statement would seem to weaken the case for placing high priority on *SIM* and the *TPF*. However, Blandford draws the incorrect conclusion that the more than 160 current extrasolar planet candidates² imply that our solar system is unrepresentative and hence that the search for habitable planets may be extraordinarily difficult.

Finding an exact analogue of our planetary system is highly unlikely, given the chaotic processes involved in planet formation, yet scientists have no reason to believe that planetary systems similar to our own are not commonplace. The 160 known extrasolar planetary systems were nearly all discovered by Doppler spectroscopy and photometric transits, methods that strongly



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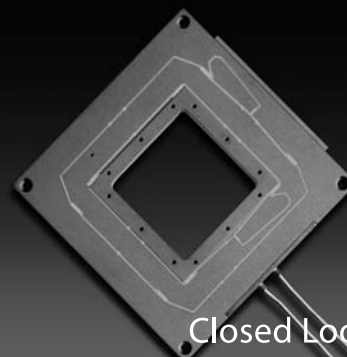


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