8.8: End of Chapter

References

Quotation from Count Rumford in Section 8.2: Sanborn C. Brown, *Benjamin Thompson, Count Rumford* (MIT Press, Cambridge, Mass., 1979), page 220.

Reference to measurement of very small effects in Section 8.2: Vladimir Braginsky and A. B. Manukin, "Quantum non-demolition," in Measurement of Weak Forces in Physics Experiments, edited by David H. Douglas (University of Chicago Press, 1977). Quotation from biography of A. H. Compton in Section 8.4: Robert S. Shankland, Dictionary of Scientific Biograpby, edited by Charles Coulston Gillespie, Volume III (Charles Scribner's Sons, New York, 1971).

Compton scattering reported in A. H. Compton, Physical Review, Volume 22, pages 409-413 (1923).

The polyelectron mentioned in Section 8.5 has been independently generated, through interaction of a slow positron with the electrons of a metal surface, by Alan Mills, Jr., at Bell Telephone Laboratories, as reported in Physical Review Letters, Volume 46, pages 717-720 (1981).

Final quotation in Box 8-1: Timothy Ferris, Coming of Age in the Milky Way (Anchor Books, Doubleday, New York, 1988), page $344 .$

Sample Problem 8-5 was suggested by Chet Raymo's science column in the Boston Globe, May 2, 1988, page $35 .$

Galileo quote in final dialog: Galileo Galilei, Dialogo dei due massimi sistemi del mundo, Landini, Florence. Translation by S. Drake, Galileo Galilei-Dialogue Concerning the Two Chief World Systems - Ptolemaic and Copernican, University of California Press, Berkeley and Los Angeles, $1953 .$

Acknowledgments

We thank colleagues old and young for the comments that helped us clarify, formulate, and describe the concept of mass in this chapter and in the final dialog, and very specially Academician Lev B. Okun, Institute of Theoretical and Experimental Physics, Moscow, for correspondence and personal discussions. We believe that our approach agrees with that in two of his articles, both entitled "The Concept of Mass," which appeared in Pbysics Today, June 1989 , pages $31-36$, and Soviet Physics-Uspekhi, Volume 32, pages 629-638 (July 1989). You now have at your disposal the power of special relativity to provide physical insight and accurate predictions about an immense range of phenomena, from nucleus to galaxy. The following exercises give only a hint of this range. Even so, there are too many to carry out as a single assignment or even several assignments. For this reason - and to anchor your understanding of relativity - we recommend that you continue to enjoy these exercises as your study moves on to other subjects. The following table of contents is intended to help organize this ongoing attention.