TSF07-2007-000178

Abstract for an Invited Paper
for the TSF07 Meeting of
the American Physical Society

Einstein's Theory of Specific Heats: The Third Coming of Planck's Constant

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Today, Einstein's explanation in 1907 of the marked drop in the specific heat of diamond with decreasing temperature is overshadowed by admiration for his Annus Mirabilis of 1905, introducing his light-quantum (the "second coming of h"), Brownian motion, and special relativity. Back then, however, his specific heat theory had far greater impact on the thinking of contemporary physicists and his reputation. This talk will explore instructive aspects of the historical context, particularly the symbiotic relationship between the development of quantum theory and the Third Law of thermodynamics. Also, recent tantalizing work will be mentioned that resembles the approach young Einstein took a century ago.