

Abstract Submitted
for the APR16 Meeting of
The American Physical Society

Sommerfeld's influence on Einstein's evaluation of Minkowski, 1908 to 1916. FELIX T. SMITH, Retired — Einstein (E.), who had begun entirely hostile to Minkowski's (M.'s) space-time view of relativity in 1908, completely reversed himself by March 1916, saying in the second sentence of his major article on General Relativity (G.R.) in *Ann. d. Phys.*: "The generalization of the theory of relativity was greatly facilitated through the form that the special theory of relativity was given by Minkowski, the mathematician who first made clear the formal equivalence of the spatial coordinates and the time coordinate and made it practically useable for the construction of the theory." Two major steps in this evolution exhibit E.'s respect for Sommerfeld's (S.'s) knowledge and judgment. At a meeting in Salzburg, Sept., 1909, they discussed and disagreed strongly about the value of M.'s contributions, but by the Feb., 1910, Part 2 of a survey paper E. had come to follow S. in accepting fully M.'s space-time and its coordinate $x_4 = ict$. Step 2 followed S.'s June, 1915, publication of a 1907 lecture on relativity by M., doctoring it slightly to influence E. Unknown is whatever else S. communicated to E. at that time, but S.'s unrivalled knowledge of the implications of M.'s 4-vector algebra and analysis were at E.'s disposal. There soon followed both a paper by E. in Feb., 1916, adapting to the needs of G.R. a covariant form of Maxwell's equations discovered by M., and then E.'s handsome acknowledgement in March. The importance of early personality issues between M. and E. and of S.'s later diplomatic interventions will be explored.

Felix T. Smith
Retired

Date submitted: 09 Feb 2016

Electronic form version 1.4