1135-30-1378   **Jonathan Holland*** (`jehsma@rit.edu`). *Hawking temperature and elliptic curves.*

In a series of papers in the 1970s, Gibbons and Hawking observed that the Euclidean Schwarzschild solution in four dimensions admits a natural complexification that is regular at the orbifold singularity of the event horizon. In that complexification, time becomes periodic with the (imaginary) period $8\pi iM$, whose modulus is the reciprocal of the black hole temperature. This talk describes a novel way to obtain the same period, using the classical Weierstrass theory of elliptic curves, which avoids the Eucidean ansatz. The construction is elementary. (Received September 25, 2017)