

Review the paper “Thermodynamic Properties of Seawater, Ice and Humid Air: TEOS-10, Before and Beyond” by Rainer Feistel

This is a review article, on the occasion of Rainer winning the Fridtjof Nansen Medal of EGU, and delivering the Fridtjof Nansen address in Vienna. The article is very well written and it provides an invaluable insight into the workings of SCOR/IAPSO WG127 and the motivations of Rainer in addressing the many developments that were required to ultimately deliver the three thermodynamic potentials which are TEOS-10.

I have only very minor comments, as follows.

Line 202, delete “meanwhile”

Line 291. Should “Hexagonal ice I is” be “Hexagonal ice Ih is”

Line 297. Replace “wide range on temperatures” with “wide range of temperatures”

Line 365. I suggest replacing “controversial emotional” with “forthright”

Line 420. It would be clearer to replace “the Reference Salinity (9) is to corrected by” with “the Absolute Salinity is to estimated by”

Line 424. Replace “from density” with “using density”

Line 431. At 35 g/kg,  $T=300\text{K}$  and  $p = 0\text{dbar}$ , the saline contraction coefficient is about 0.72 not 0.66.

Line 433. Replace “received appreciation again for” with “relies on”

Line 617. Replace “latent heat of seawater” with “latent heat of evaporation of seawater”

Line 804. Replace “was commonly established” with “was jointly established”

Line 846. I suggest replacing “after many long and vivid discussions” with “after many long and memorable discussions”

Lines 947-948. Replace “BIPM has not recommended yet any RH definition by now.” with “BIPM has not yet recommended any RH definition.”

Line 1838. Replace “with Sicily Island in the back.” with “with Sicily Island in the background.”