General comment:
This manuscript is a reappraisal of melting calorimetry for the measurement of liquid water in wet snow. Both melting and freezing calorimetry are compared. The work achieved is certainly valuable and worth of publication. However, the paper should be more concise. For instance, the part of Section 3 before Subsection 3.1 is not necessary because it is repeated later. And the figure captions should simply be descriptions of the figures needed for understanding.

Main comments:
My main concern is related to the key quantity, the volumetric liquid-water content, first mentioned in the abstract, and later at several places of the manuscript, e.g. Line 664. Its definition is the volume fraction of liquid water for a given test sample of snow, $\theta_v = V_w/V_s$, where V_w is the volume of liquid water and V_s is the volume of the snow. In Table 1, the respective quantity θ_ω first appears as a percentage of liquid water "for snow volume", whatever this means. A few lines later in this table, θ_ω appears as the mass fraction of liquid-water mass to total snow mass, independent of the snow volume. And this is the quantity required in the heat-budget equation (1).
To get the volumetric liquid-water content, θ_ω must be multiplied with the ratio of snow density to density of liquid water. This ratio only reaches 1 when all snow is melted. Otherwise, it is smaller than 1. The dielectric sensors used today for the measurement of the liquid-water content are based on θ_v, , not θ_ω, see e.g. the intercomparison paper of Denoth et al. (1984.). It appears that the authors do not distinguish between the two quantities. And this is a mistake.

Please also note that "Mass of liquid-water fraction" (in Table 1, and near Equation (1)) is incorrect. A mass cannot be a fraction, because mass has units of kg, whereas a fraction is a number.

Another remark to Table 1 is to the description of the snow temperature, T_s. The given temperature is the melting temperature of pure ice, and indeed, this temperature is found throughout in wet snow (if salt or other ionic impurities are not involved). This value is not "by definition", but because water and ice are in good contact in wet snow, and heat conduction forces ice and water to be at the same temperature in wet snow.

Small details:
Line 107: clarifiy ... "technique accuracy"....
Line 118: correct ... "do not account not"...
Line 119: "Something that was never attempted in the past." Please be careful with such statements. You cannot be sure.
Line 143; ..."create an adiabatic environment, ensuring ideal heat exchange"... This sounds contradictive, because there is no heat exchange in adiabatic processes. Perhaps you mean that there is no heat exchange between the environment and the calorimeter.
Line 257: Change "The uncertainty... as the squared root" to "The uncertainty... as the square root"...
Line 430: Change "temperature spectrum" to "temperature range".