Reviewer Comments on article "Improving accuracy and precision of ice core δD(CH_4) analyses using methane pre- and hydrogen post-pyrolysis trapping and subsequent chromatographic separation

Throughout the entire manuscript D or δD must be replaced by ^{2}H and δ^2H since in its current form this manuscript does not meet IUPAC guidelines and recommendations with regards to nomenclature. According to IUPAC's recommendations (IUPAC: Nomenclature of Inorganic Chemistry. IUPAC Recommendations 2005, RSC Publishing, Cambridge, UK, 2005) heavy isotopes of hydrogen should be written as ^{2}H (and ^{3}H) rather than as D (and T).

Page 11285, lines 22-25: (1) Which advantage holds this method of peak detection over peak detection based on start and end slope thresholds? (2) Has this fixed peak width method been validated (= proven to yield accurate results) and, if so, how? Please, provide supporting information.

Page 11286, lines 9-10: The authors ought to discuss the causes for the observed signal (= sample amount) dependency of measured ^{2}H abundance values. Assuming the IRMS instrument used in this study is isotopically linear when tested with e.g. varying amounts of pure H_2 gas or water (such as VSMOW) the cause for this observed non-linearity must be related to a process or combination of processes up-stream of the IRMS.

Page 11287, lines 5-10: While articles are cited with regards to how "Air Controle" was cross-referenced to VSMOW, a brief statement should be included confirming that scale calibration of its stated δ^2H value to the VSMPW/SLAP scale was indeed based on a 2-point calibration using e.g. VSMOW and SLAP.

Page 11209, lines 15-17: Why speculate? Ion traces presented in all panels of Fig. 3 show quite clearly the detrimental effect any presence of CH_4 or Kr in the ion source would have on isotope ratio measurement of *m/z* 3 / 2 and thus on δ^2H values.