**MRS Absolute Values Working Sheet**

**Original Equation from Near et al. 2020**



where,

$$R\_{H2O\_{x}}=(EXP({-T\_{E}}/{T\_{2}})×[1-EXP({-T\_{R}}/{T\_{1})]}$$

**Worked Examples from Participants 1, Trial 1, dlPFC, NAA**

$$[M]=\frac{3.85E^{-5}}{5.73E^{-2}}×\frac{0.4254×0.78×R\_{H2O\_{GM}}+0.5511×0.65×R\_{H2O\_{WM}}+0.0235×0.97×R\_{H2O\_{CSF}}}{\left(0.4254+0.5511\right)×1}×\frac{2}{3}×55.01$$

Where,

$$R\_{H2O\_{GM}}=(EXP({-0.031}/{0.11})×[1-EXP({-5}/{1.47)]}$$

$$R\_{H2O\_{WM}}=(EXP({-0.031}/{0.074})×[1-EXP({-5}/{1.06)]}$$

$$R\_{H2O\_{CSF}}=(EXP({-0.031}/{0.2})×[1-EXP({-5}/{3)]}$$

Relaxation Scaling Factors from Posse 2007