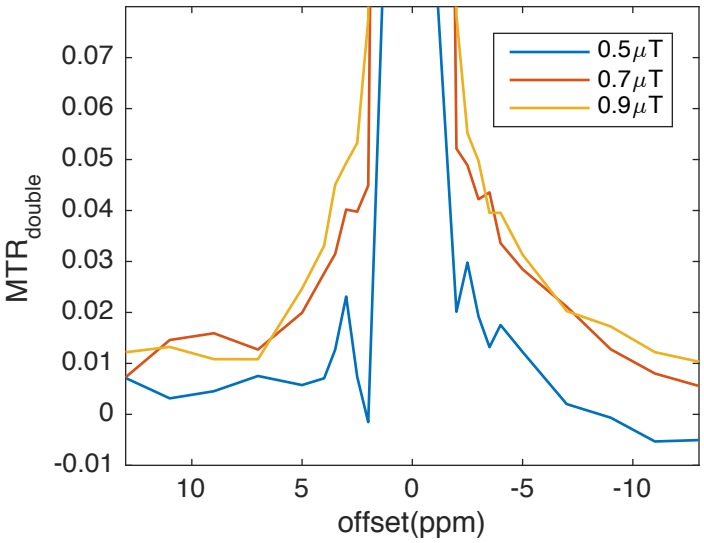

Figure S1. The MTR_{double} in the white matter from an additional volunteer. We acquired CERT z-spectra with the offset range extending to ±13 ppm (MT region) with three average powers (0.5, 0.7 and 0.9 μT). The results suggest that MTR_{double} are less than ±1% at large offsets with a 0.5 μT saturation, and MTR_{double} would converge to around 1% at large offsets with 0.7 and 0.9 μT saturations.

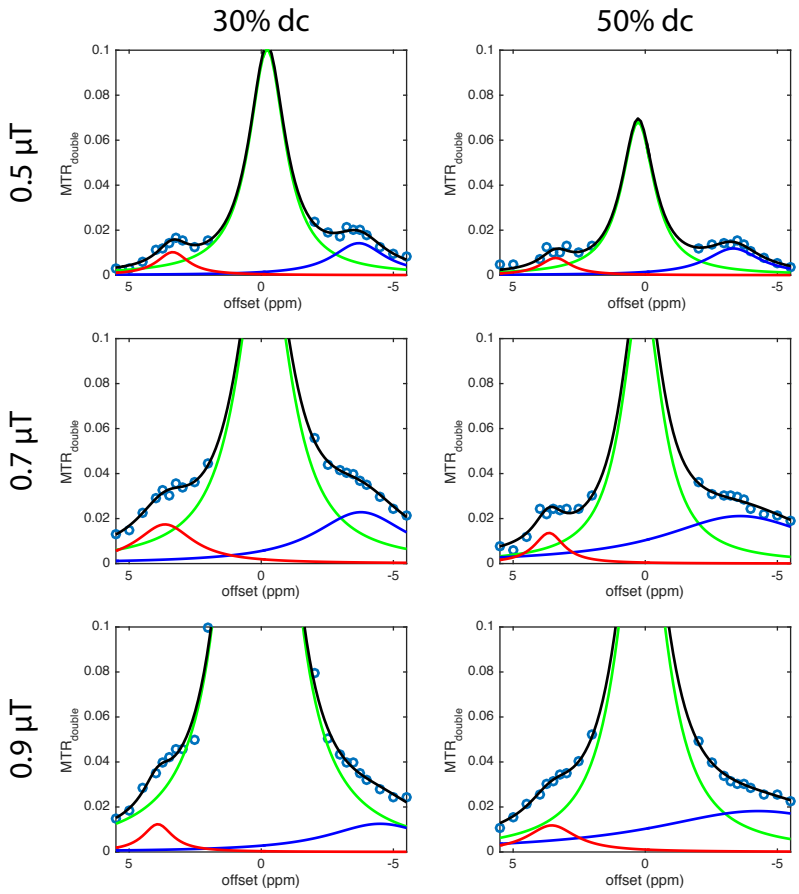

Figure S2. We fitted the data shown in Figure 2 with three Lorentzian functions. We excluded the data between -2 to 2 ppm to obtain better and more reasonable results. Residual water signal, APT and rNOE are shown in green, red and blue, respectively, and their summations are shown in black. The amplitudes of the Lorentzian functions are listed the Table S1. Residual water signals are lest with a 0.5 µT saturation among the power range we examined, and APT is higher in a 30% duty cycle than in a 50% duty cycle.

Table S1.

The amplitudes of the Lorentzian functions.

	Residual water		APT		rNOE	
	30%	50%	30%	50%	30%	50%
0.5 μT	0.1003	0.0680	0.0102	0.0076	0.0142	0.0119
0.7 μT	0.1515	0.1224	0.0174	0.0136	0.0229	0.0211
0.9 μT	0.5162	0.1696	0.0124	0.0118	0.0125	0.0182