1

0.1 AWI B-cores

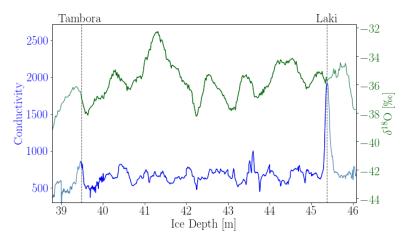


Figure 0.1: δ^{18} O and conductivity profile of the AWI B-core B23. The dashed lines represent the suggested locations of the Laki and Tambora eruptions as matched in [?, Weissbach et al. 2016]

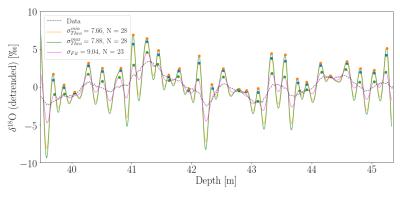


Figure 0.2

0.2 Crete and Surrounding Alphabet Cores

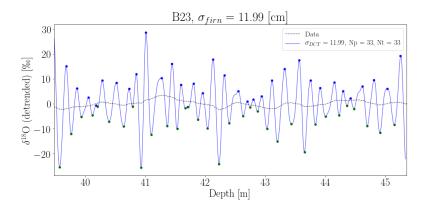


Figure 0.3

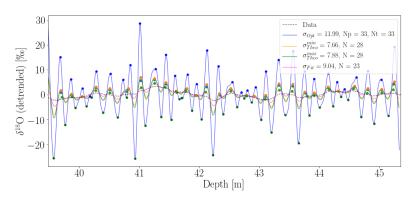


Figure 0.4

	Crete		Site A		Site B		Site D		Site E			$\mathbf{e} \mathbf{G}$
	$\sigma_{ m opt}$	$\sigma_{ m firn}$										
FFT												
DCT	6.08	6.02	5.97	5.85	5.71	5.83	4.55	4.41	6.37	6.24	8.81	8.72
DCT NDCT	5.98	5.93	6.27	6.16	6.25	6.36	4.57	4.43	6.55	6.43	8.84	8.75

	Crete		Site A		Site B		Site D		Site E		Site G	
	$\sigma_{ m opt}$	$\sigma_{ m firn}$										
$\sigma_{ m constant}$												
$\sigma(z)$												

	Crete		Site A		Site B		Site D		Site E		Site G	
	$\sigma_{ m opt}$	$\sigma_{ m firn}$	$\sigma_{ m opt}$	$\sigma_{ m firm}$								
No constraints												
Constraints												

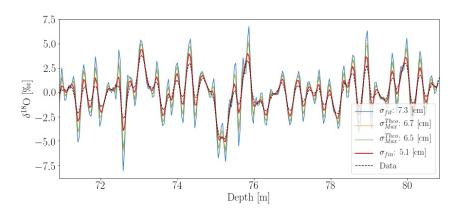


Figure 0.5: Estimated back diffused data series with different diffusion length estimates: diffusion length estimate from spectral fit (σ_{fit}) , maximum (σ_{Max}^{Theo}) and minimum (σ_{Min}^{Theo}) theoretically estimated diffusion lengths and final estimated diffusion length.