For the first term instead of expanding det.

can write $\left| \det \nabla^2 f(t) - \det(\nabla^2 f(t_0)) \right| \leq \boxed{L \times \ldots \Sigma.}$

getting the Lipschitz terms as before but simplifying the first part of the integral.

---

only needed for Slepian models of the 2^{nd} derivative

ie as ~~det =~~

$$\det \nabla^2 f(t) = \sum_{\sigma \in S_n} s(\sigma) \prod_{i=1}^{n} (\nabla^2 f(\tau))_{i\sigma(i)}$$

~~cont~~ which's obvious

$$\Rightarrow \det \nabla^2 f(t) - \det \nabla^2 f(t_0) = \sum_{\sigma \in S_n} s(\sigma) \left(\prod_{i=1}^{n} \nabla^2 f(t)_{i\sigma(i)} - \prod_{i=1}^{n} \nabla^2 f(t_0)_{i\sigma(i)} \right)$$

Now similar to the use of LCT in Davis proof,

here have $\cancel{\frac{1}{\varepsilon} \int_{B_\varepsilon} \frac{1}{r^N} \int_B}$ $\frac{1}{r^D} \int_{B_r} \int_{\mathbb{R}^{D(D+1)/2} \times \mathbb{R}} = h(t).$

$$\Delta \sum_{\sigma \in S_n} \prod |y_{i\sigma(i)}| \times \mathbb{1}[z > v] \, \mathbb{1}\left[\left| \frac{y}{z} + \frac{\Lambda(\tau)}{\sigma^2} \right| > \varepsilon \right]$$

$$\times \, p_{\nabla X(t), \nabla^2 X(\tau), X(\tau)}(a, y, z)$$

cts int

for $t_n \to t$ $h(t_n) \to h(t)$ by DCT here too.