ERRATA EXAMEN DE ANÁLISIS DE FOURIER

1. p.215 - Problema 4 Parte (a) y (b) Dice

$$\begin{aligned} \Delta_x Mh(x,r) &= \left[\partial_r^2 + \frac{d-1}{r}\right] Mh(x,r) \\ \left[\partial_r^2 + \frac{d-1}{r}\right] Mu(x,r,t) &= \partial_r^2 Mu(x,r,t) \end{aligned}$$

   debe decir

$$\begin{aligned} \Delta_x Mh(x,r) &= \left[\partial_r^2 + \frac{d-1}{r}\partial_r\right] Mh(x,r) \\ \left[\partial_r^2 + \frac{d-1}{r}\partial_r\right] Mu(x,r,t) &= \partial_r^2 Mu(x,r,t) \end{aligned}$$

2. p.216 -Problema 5 dice

$$u(x,t) = \frac{1}{1\cdot 3\cdots(d-2)}\left[\partial_t(t^{-1}\partial_t)^{(d-3)/2}\left(t^{d-2}\widetilde{M}_t f(x)\right) + (t^{-1}\partial_t)^{(d-3)/2}\left(t^{d-2}\widetilde{M}_t g(x)\right)\right]$$

   debe decir

$$u(x,t) = \frac{1}{2\cdot 4\cdots d}\left[\partial_t(t^{-1}\partial_t)^{(d-2)/2}\left(t^{d}\widetilde{M}_t f(x)\right) + (t^{-1}\partial_t)^{(d-2)/2}\left(t^{d}\widetilde{M}_t g(x)\right)\right]$$

   donde

$$\widetilde{M}_t g(x) = \fint_{B(x,t)} \frac{g(y)}{(t^2-|y-x|^2)^{1/2}}\,dy$$

   e

$$\fint_{B(x,r)} f(x)\,dy = \frac{1}{A_{d+1}r^d}\int_{B(x,r)} f(y)\,dy$$

   es decir el promedio de f sobre la bola de centro x y radio r

3. p.217 - Problema 7 Parte (d). Dice

$$\begin{aligned} (-\Delta)^{1/2} f(x) &= \lim_{y\to 0}\frac{\partial u}{\partial y}(x,y) \\ (-\Delta)^{k/2} f(x) &= \lim_{y\to 0}\frac{\partial^k u}{\partial y^k}(x,y) \end{aligned}$$

   Debe decir:

$$\begin{aligned} (-\Delta)^{1/2} f(x) &= -\lim_{y\to 0}\frac{\partial u}{\partial y}(x,y) \\ (-\Delta)^{k/2} f(x) &= (-1)^k\lim_{y\to 0}\frac{\partial^k u}{\partial y^k}(x,y) \end{aligned}$$

4. p.278 - Ejercicio 14 Dice

$$E(\theta) = \frac{1}{2}\log\left(\frac{1}{2-2\cos\theta}\right) + \frac{i}{2}F(\theta)$$

Debe decir

$$E(\theta) = \frac{1}{2}\log\left(\frac{1}{2-2\cos\theta}\right) + \frac{1}{2}F(\theta)$$