

COEFFICIENTI DI FOURIER

f - T -PERIODICA.

$$a_0 = \frac{2}{T} \int_0^T f(t) dt$$

$$\left\{ \begin{array}{l} a_0, a_k = 0 \quad f \text{ DISPARI} \\ b_k = 0 \quad f \text{ PARI} \end{array} \right.$$

$$a_k = \frac{2}{T} \int_0^T f(t) \cos \frac{2k\pi}{T} t dt$$

$$b_k = \frac{2}{T} \int_0^T f(t) \sin \frac{2k\pi}{T} t dt$$

$$f(x) \sim \frac{a_0}{2} + \sum_{k=1}^{\infty} \left(a_k \cos \frac{2k\pi}{T} x + b_k \sin \frac{2k\pi}{T} x \right)$$

CRITERIO DI CONV. POINTWISE

f 2π PERIODICA e GEN. REGOLARE $\Rightarrow S_m(x) \rightarrow \frac{f(x+) + f(x-)}{2} \quad \forall x \in \mathbb{R}$

CRITERIO DI CONV. UNIFORME

f 2π PERIODICA, GEN. REG., f CONT. IN $[0, b]$ CIR

$\Rightarrow S_m(x) \rightarrow f(x)$ TOTALMENTE IN $[0, b]$

• $\|P_m(t)\| = T a_0^2 + \frac{T}{2} \sum_{k=1}^m (a_k^2 + b_k^2)$ ENERGIA

con $a_k = k b_k$

$b_k = -k a_k$