

Domaine de convergence de $X(z)$.

$$X(z) = \sum_{k=0}^{\infty} a^k z^{-k}$$

si $k=0 \Rightarrow a z^0 = 1 \Rightarrow$ converg

Etude pour $k \rightarrow \infty$

$$\lim_{k \rightarrow \infty} |a^k z^{-k}|^{1/k} = \lim_{k \rightarrow \infty} |a z^{-1}| < 1$$

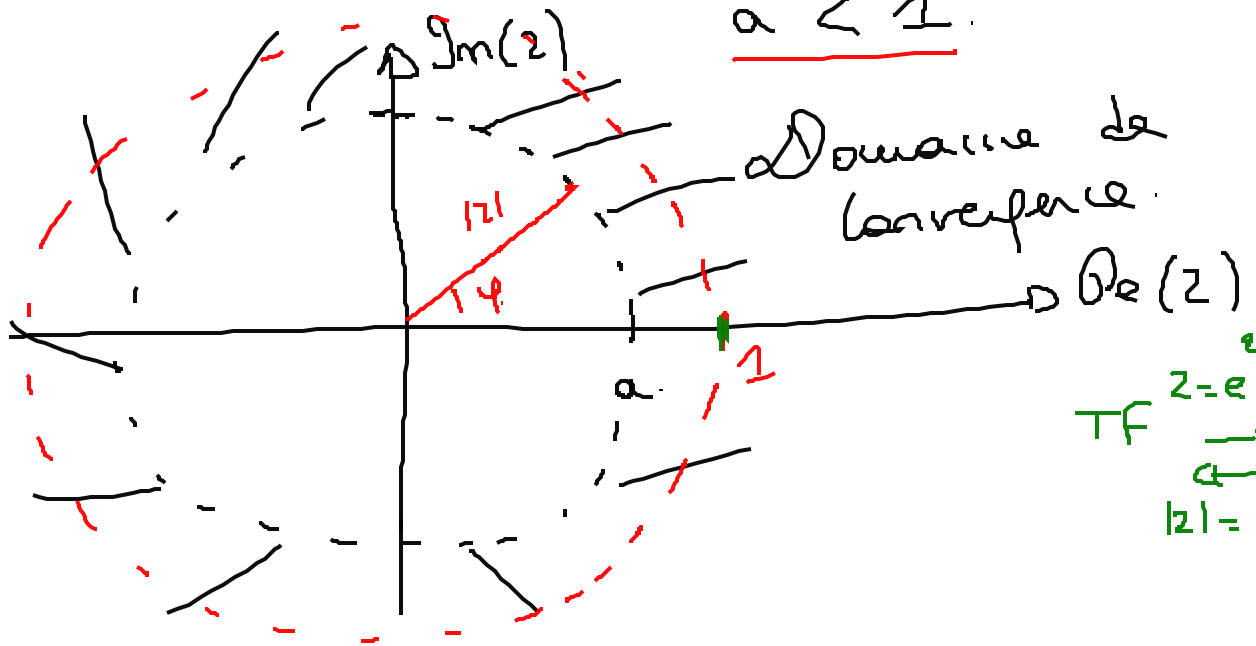
$$\Rightarrow |a| < |z|$$

$$z = |z| e^{j\varphi}$$

Remarque

TF existe $|z|=1 \in \mathcal{D}$.

$$a < 1$$



$$TF \begin{matrix} z = e^{e\pi j + j\varphi} \\ \rightarrow \frac{e}{T} z \\ \leftarrow \\ |z|=1 \end{matrix}$$