

P. Vitse, **The Riesz turndown collar theorem giving an asymptotic estimate of the powers of an operator under the Ritt condition**, *Rendiconti Circ. Math. Palermo* (2) 53 (2004), 283–312.

**Abstract**

For Banach space operators  $T$  satisfying the Tadmor-Ritt condition  $\|(zI - T)^{-1}\| \leq C|z - 1|^{-1}$ ,  $|z| > 1$ , we show how to use the Riesz turndown collar theorem to estimate  $\sup_{n \geq 0} \|T^n\|$ . A similar estimate is shown for  $\limsup_n \|T^n\|$  in terms of the Ritt constant  $M = \limsup_{z \rightarrow 1} \|(1 - z)(zI - T)^{-1}\|$ . We also obtain an estimate of the functional calculus for these operators proving, in particular, that  $\|f(T)\| \leq C_q \|f\|_{Mult}$ , where  $\|\cdot\|_{Mult}$  stands for the multiplier norm of the Cauchy-Stieltjes over a Lusin type cone domain depending on  $C$  and a parameter  $q$ ,  $0 < q < 1$ .