

Pietschmann, Frank; Rhodius, Adolf

The numerical ranges and the smooth points of the unit sphere. (English) Zbl 0697.47003
Acta Sci. Math. 53, No. 3-4, 377-379 (1989).

Let S_p be the unit sphere of a complex Banach space (E, p) and F_p the set of all smooth points on S_p . Assuming that the set F_p is dense in S_p , the author proves that for continuous operators T the closure of the set $\{p'(x, Tx) - ip'(x, iTx) : x \in F_p\}$ is the closure of a Lumer numerical range of T , where p' denotes the Gâteaux derivative of p .

Reviewer: [T.Nakazi](#)

MSC:

[47A12](#) Numerical range, numerical radius

Keywords:

[smooth points](#); [Lumer numerical range](#); [Gâteaux derivative](#)