ANTONI WAWRZYNCYK, Universidad Autónoma Metropolitana–Iztapalapa, Departamento de Matemáticas, Av. San Rafael Atlixco 186, Col. Vicentina, 09340 Mexico, AP 55-534

Schur Lemma and the spectral mapping formula

Let B be a complex topological unital algebra. The left joint spectrum of a set $S \subset B$ consisting of pairwise commuting elements is defined by the formula

$$\sigma_l(S) = \Big\{(\lambda(s))_{s\in S} \in \mathbb{C}^S \;\Big|\; \sum_{s\in S} B(s-\lambda(s)) \text{ is a proper ideal}\Big\}.$$

Using the Schur Lemma and the Gelfand–Mazur theorem we prove that $\sigma_l(S)$ has the spectral mapping property for the following algebras:

(i) B—a locally convex (F)-algebra with all maximal left ideals closed,

(ii) B—an m-convex algebra with all maximal left ideals closed,

(iii) B—a locally convex Waelbroeck algebra.

The right ideals version of the result is also valid.