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8. Analysis

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Some elements of a General Spectral Theory of Banach modules and their applications.

When solving the problem on multiplication of generalized functions physicists and mathematicians are considering a generalized function as an equivalence class of sequences of C^{∞}-functions. The equivalence relation is defined by approximation. It follows that these classes form an algebra which is called the algebra of mnemofunctions. The general method of constructing such algebras was obtained by A. B. Antonevich and Ya. V. Radyno in [1]. It has been found that this method could be applied not only to generalized functions but also to objects of different character such as unbounded operators [2]. This approach will be presented.

Reference: [1] A. B. Antonevich and Ya. V. Radyno, On a general method for constructing algebras of generalized functions, *Docl. Academy Nauk SSSR, v.* **318**, *no* **2 (5)** (1991), 267-270 (Russian). [2] N. Ya. Radyno, Some Questions of a General Spectral Theory of Banach modules, *Vienna, Preprint ESI* **513** (1997), 1–15. Available via WWW; URL: http://www.esi.ac.at