

Comparing topologies on linearly recursive sequences*

Laiachi El Kaoutit †

*Universidad de Granada, Departamento de Álgebra and IEMath-Granada,
Facultad de Educación, Economía y Tecnología de Ceuta,
Cortadura del Valle, s/n. E-51001 Ceuta, Spain*

Paolo Saracco ‡

*Université Libre de Bruxelles, Département de Mathématique,
Boulevard du Triomphe, B-1050 Brussels, Belgium*

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Abstract

The space of linearly recursive sequences of complex numbers admits two distinguished topologies. Namely, the adic topology induced by the ideal of those sequences whose first term is 0 and the topology induced from the Krull topology on the space of complex power series via a suitable embedding. We show that these topologies are not equivalent.

Keywords: Linearly recursive sequences, adic topologies, power series, Hopf algebras.

Math. Subj. Class.: 13J05, 40A05, 16W70, 13J10, 54A10, 16W80

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†Home page: <https://www.ugr.es/~kaoutit/>

‡Home page: <https://sites.google.com/site/paolosaracco/>

E-mail addresses: kaoutit@ugr.es (Laiachi El Kaoutit), paolo.saracco@ulb.ac.be (Paolo Saracco)

Primerjava topologij na linearno rekurzivnih zaporedjih*

Laiachi El Kaoutit †

*Universidad de Granada, Departamento de Álgebra and IEMath-Granada,
Facultad de Educación, Economía y Tecnología de Ceuta,
Cortadura del Valle, s/n. E-51001 Ceuta, Spain*

Paolo Saracco ‡

*Université Libre de Bruxelles, Département de Mathématique,
Boulevard du Triomphe, B-1050 Brussels, Belgium*

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Povzetek

Prostor linearno rekurzivnih zaporedij kompleksnih števil dopušča dve različni topologiji: adično topologijo, inducirano z idealom tistih zaporedij, katerih prvi člen je 0, in topologijo, inducirano s Krullovo topologijo na prostoru kompleksnih potenčnih vrst s pomočjo primerne vložitve. Pokažemo, da ti dve topologiji nista ekvivalentni.

*Ključne besede: Linearno rekurzivna zaporedja, adične topologije, potenčne vrste, Hopfove algebre.
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† Domača stran: <https://www.ugr.es/~kaoutit/>

‡ Domača stran: <https://sites.google.com/site/paolosaracco/>

E-poštna naslova: kaoutit@ugr.es (Laiachi El Kaoutit), paolo.saracco@ulb.ac.be (Paolo Saracco)