

# INTERNATIONAL BIWEEKLY ONLINE SEMINAR ON ANALYSIS, DIFFERENTIAL EQUATIONS AND MATHEMATICAL PHYSICS

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Coordinators: Prof. Alexey Karapetyants, Prof. Vladislav Kravchenko

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## Superposition operators on spaces of analytic functions

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If  $\varphi$  is an entire function then the superposition operator  $S_\varphi$  is defined by

$$S_\varphi(f)(z) = \varphi(f(z)), \quad f \in \text{Hol}(\mathbb{D}), \quad z \in \mathbb{D}.$$

If  $X$  and  $Y$  are two subspaces of  $\text{Hol}(\mathbb{D})$ , the question is: For which entire functions  $\varphi$  does the operator  $S_\varphi$  map  $X$  into  $Y$ ?, and when is continuous and/or bounded?

This question has been solved for a good number of pairs  $(X, Y)$  of spaces of analytic functions in the disc by distinct authors including Cámara, Giménez, Buckley, Fernández, Bonet, Vukotic and others.

After presenting some of these results, I will turn to deal with a number of contributions to the topic I have obtained in collaboration with some colleagues in the last few years.

\*Seminar website: <https://msrn.sfedu.ru/sl>. The seminar uses Microsoft Teams online platform.  
Please send questions to [ademp.seminar@gmail.com](mailto:ademp.seminar@gmail.com) (Tatiana Andreeva, scientific secretary).

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The seminar is organized by the coordinators Alexey Karapetyants and Vladislav Kravchenko within the activities of the Regional Mathematical Center of the Southern Federal University in collaboration with Institute of Mathematics, Mechanics and Computer Sciences of the Southern Federal University and the OTHA research group in Operator Theory and Harmonic Analysis.



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