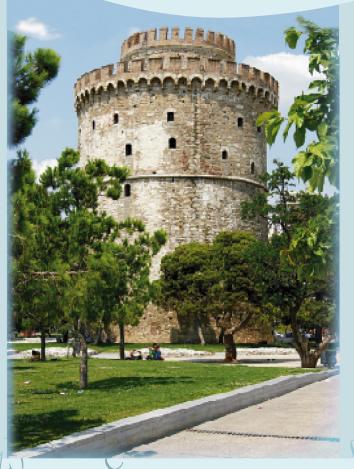
WORKSHOP IN COMPLEX ANALYSIS AND OPERATOR THEORY

THESSALONIKI, GREECE, JULY 11-16 2010



ORGANIZING COMMITTEE

P. Galanopoulos M. Papadimitrakis A. G. Siskakis

SPONSORS

Aristotle University of Thessaloniki Research Committee Department of Mathematics Graduate Program Division of Analysis

- Main Speakers D. Girela, Malaga M. J. Martin, Madrid Th. Mitsis, Iraklion M. Papadimitrakis, Iraklion J. Pau, Barcelona
- J. A. Pelaez, Malaga

WORKSHOP IN COMPLEX ANALYSIS AND OPERATOR THEORY

Thessaloniki July 11 – 16 2010

PROGRAM

Monday July 12

Morning

- 10:00 10:50 M. Papadimitrakis, **On the minimal space**. 11:00 – 11:30 Break 11:30 – 13:00 Working session
- 13:30-15:00 Lunch

Afternoon

18:00 – 18:50 D. Girela, Univalent functions and multipliers of Mobius invariant spaces.

19:00 – 20:30 Working session

Tuesday July 13

Morning

- 10:00 10:50 J. Pau, **Operators on large Bergman spaces.**
- 11:00 11:30 Break
- 11:30 13:00 Working session
- 13:30-15:00 Lunch

Afternoon

| 18:00 - 18:50 | Th. Mitsis, The size of the constants in reverse Holder |
|---------------|---|
| | Inequalities. |

19:00 – 19:50 M. J. Martin, On convex harmonic mappings.

Wednesday July 14

Morning

10:00 – 10:50 J. A. Pelaez, **On the zeros of functions in the Dirichlet space.** 11:00 – 11:30 Break 11:30 – 13:00 Working session 13:30 – 15:00 Lunch

Afternoon

| 18:00 - 18:50 | P. Galanopoulos, | Hankel Operators on Bergman spaces. |
|---------------|------------------|-------------------------------------|
| 19:00 - 19:30 | G. Stylogiannis, | Weighted Composition Operators. |

Thursday July 15

Morning

10:00 - 10:30 A. Arvanitidis, The Cesaro operator on the Hardy space of the half-plane.
10:40 - 11:10 S. Pouliasis, Condenser energy under holomorphic motions.

11:10 – 11:30 Break

11:30 – 13:00 Open problems session

13:30 - 15:00 Lunch

Afternoon Free.

Workshop dinner: Thursday at 21:00

Workshop in Complex Analysis and Operator Theory Thessalonicki, Greece. July 11-16, 2010

Univalent functions and multipliers of Möbius invariant spaces

Daniel Girela

Departamento de Análisis Matemático, Universidad de Málaga, 29071 Málaga, Spain girela@uma.es

Abstract

For $1 , the univalent functions in the analytic Besov space <math>B^p$ are completely characterized. This is no longer true for p = 1 and we shall present a number of conditions on a univalent function which are sufficient for its membership in the minimal Möbius invariant space B^1 . We shall also discuss the question of characterizing the pointwise multipliers from B^p to B^q $(1 \le p, q < \infty)$ paying special attention to the univalent multipliers between these spaces.

This talk is based on a joint work with Petros Galanopoulos and María José Martín.

ON CONVEX HARMONIC MAPPINGS IN THE DISK

María J. Martín

Universidad Autónoma de Madrid

This will be a survey talk on the theory of sense-preserving harmonic mappings in the unit disk \mathbb{D} . We will focus on the class C_H of (suitably normalized) *convex* harmonic mappings. While we review the inseparable relationship between the class S of univalent *analytic* functions in \mathbb{D} and C_H , we will show some recent advances on certain open problems related to this family of convex harmonic mappings.

Operators on large Bergman spaces

Jordi Pau

Abstract

We study properties of Hankel and integration operators on large Bergman spaces (weighted Bergman spaces with rapidly decreasing weights). The properties to be discussed are boundedness, compactness and membership in Schatten p-classes.

On the zeros of functions in Dirichlet type spaces

José Ángel Peláez

Departamento de Análisis Matemático, Facultad de Ciencias, Universidad de Málaga, 29071 Málaga, Spain japelaez@uma.es

The weighted Dirichlet-type space \mathcal{D}_s consists of those analytic functions $f \in H(\mathbb{D})$ for which

$$||f||_{\mathcal{D}_s}^2 = |f(0)|^2 + \int_{\mathbb{D}} |f'(z)|^2 (1 - |z|^2)^s \, dA(z) < \infty.$$

In this talk we shall present a number of results on the sequences of zeros for functions in \mathcal{D}_s . Among them, we shall prove that if 0 < s < 1 and a Carleson-Newman sequence $\{z_k\}$ is a \mathcal{D}_s -zero set then

$$\int_{\mathbb{T}} \log \left(\sum_{n} \frac{1 - |z_n|^2}{|e^{it} - z_n|^2} \right) \, dt < \infty.$$

This allows to assert that there are great similarities for this problem in the case 0 is i 1 with that for the classical Dirichlet space. Joint work with Jordi Pau.

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