



Azerbaijan University of Architecture and Construction, Azerbaijan

Yıldız Technical University, Turkey

“Functional Analysis and Applications”

Seminar chair:

Prof. Bilal Bilalov (YTU, İstanbul)

Date: **Wednesday, May 8, 2024**

Time: 12.00-13.00 (Baku) = 11.00-12.00 (İstanbul)

Zoom link: Meeting ID: 835 7583 4511 Passcode: tFjVt2

Speaker:

Prof. Nigar Aslanova

Azerbaijan University of Architecture and Construction, Azerbaijan

Title: On one relation between characteristic determinant and norming constants and its application to calculation of regularized trace

Microsoft PowerPoint interface showing a presentation slide titled "On one relation between characteristic determinant and norming constants and its application of regularized trace". The slide features a blue and red geometric design on the left and the following text:

On one relation between characteristic determinant and norming constants and its application of regularized trace

Participants in the video call:

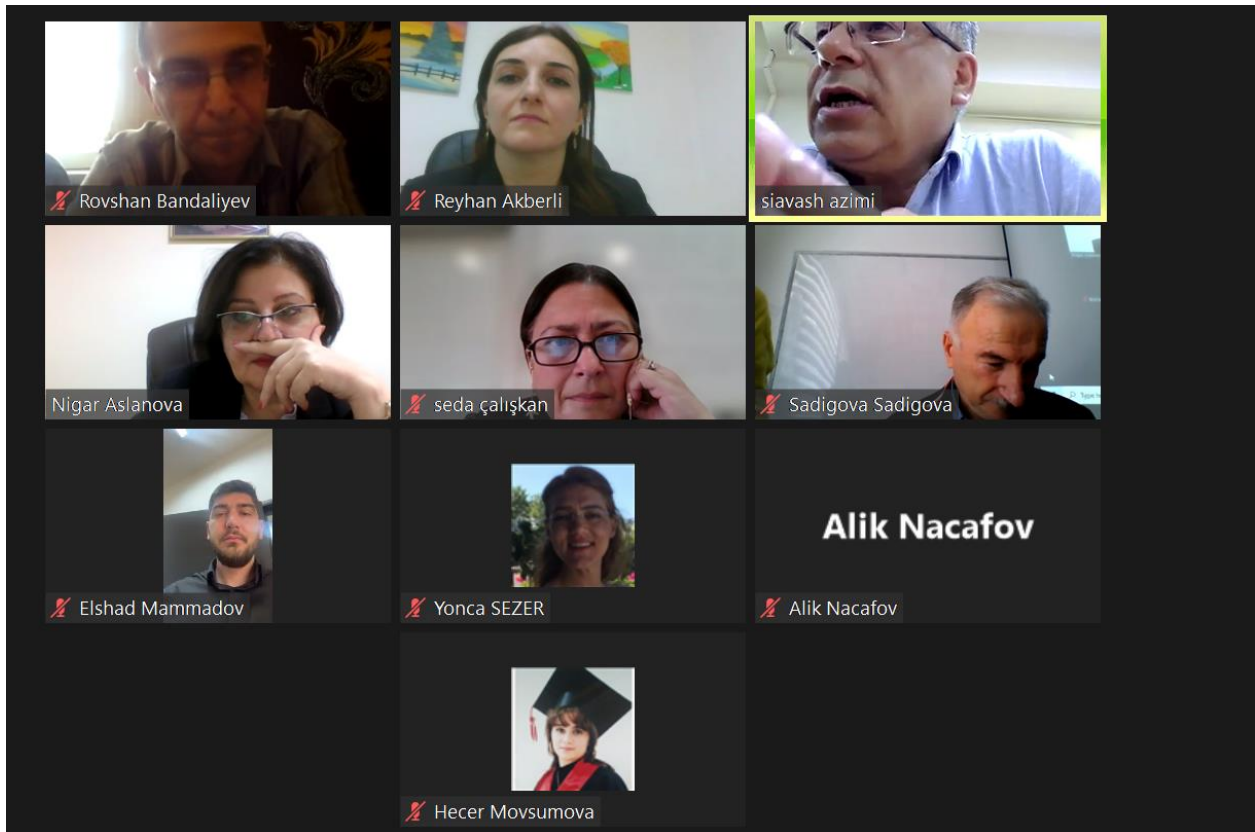
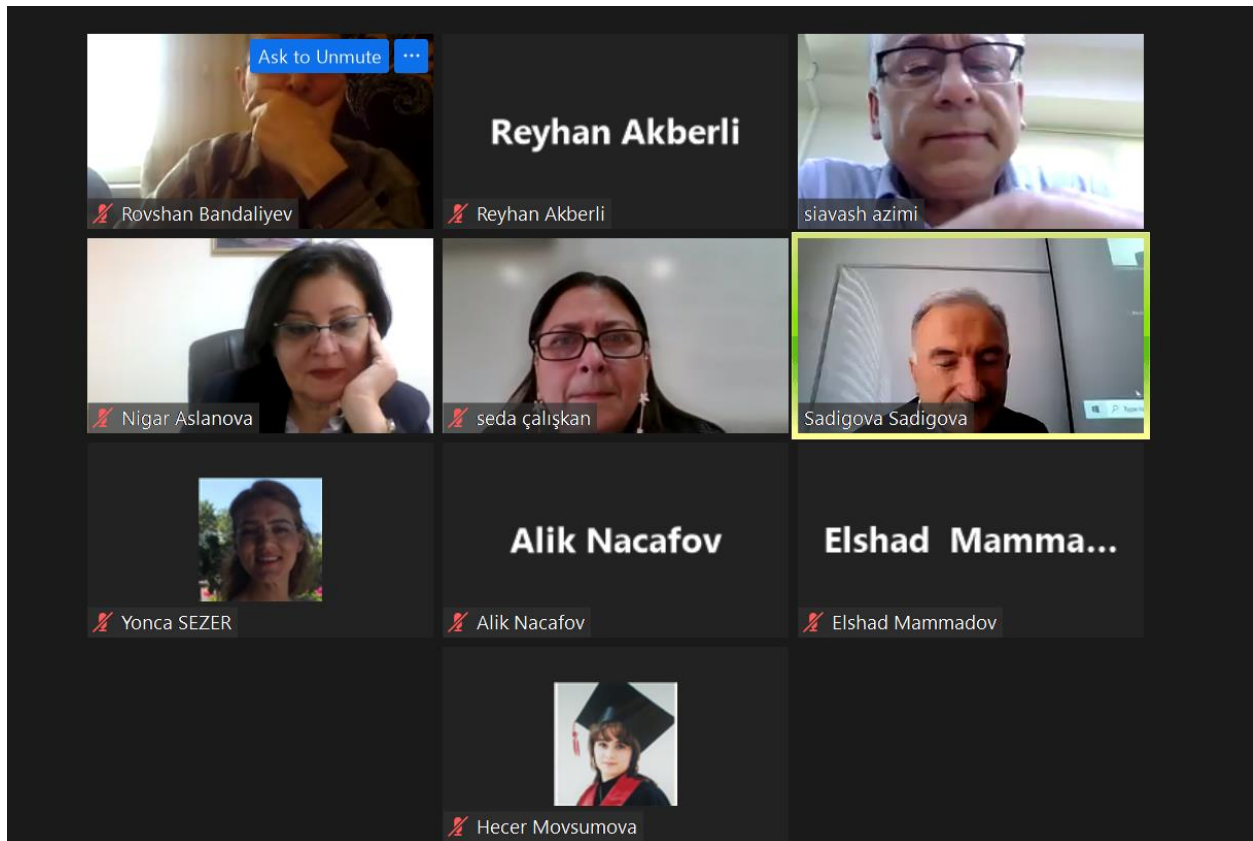
- Alik Nəcəfov
- Reyhan Akberli
- Nigar Aslanova
- Rovshan Bandaliyev

Microsoft PowerPoint interface showing the same presentation slide. The slide text is:

On one relation between characteristic determinant and norming constants and its application to calculation of regularized trace

Participants in the video call:

- Nigar Aslanova
- seda çalışkan
- Sadigova Sadigova
- Elshad Mamma...
- Elshad Mammadov



Participants in the Zoom meeting:

- Rovshan Bandaliyev
- Reyhan Akberli
- siavash azimi
- Nigar Aslanova
- seda çalışkan
- Sadigova Sadigova
- Sabina Sadigova
- Elnhad Mammadov
- Alik Nacafov
- Hecer Movsumova
- Yonca SEZER

slide Moscow (1) - PowerPoint

Problems for differential operators with λ parameter in boundary conditions were considered in different settings in scalar case, where linearization technique was applied. partial differential operators and there are few results for differential operators with unbounded operator coefficients.
 In scalar case problems are recasted as $\Delta u = \lambda u$ in $L_2(\Omega, \nu) \oplus C^d$, (y_1, y_2, \dots, y_d) , d is a number of λ -dependent boundary conditions plus degree of λ in them. Thus, it is linearized.

[1] A.A.Shalikov "Boundary value problems for ordinary differential equations with a parameter in the boundary conditions" J.Soviet Math, 33,N6,198-6,1311-1342
 [2] Ch.Treter Journal of differential equations 170, 408-471 (2001). "Boundary eigenvalue problems for differential equations $Ny = \lambda \eta y$ with η polynomial boundary conditions"
 [3] N.Kerimov "On the uniform convergence of spectral expansion for a spectral problem with a boundary condition rationally dependent on the eigenparameter", 2017, J. Korean Math. Soc. 0 (9), No. 0, pp. 1-9

On extensions with exit from space, asymptotics of spectrum and regularized trace formula of fourth-order differential operator

Slide 5 из 77 | русский | 72%

slide Moscow (1) - PowerPoint Nigar Aslanova

Проблемы для дифференциальных операторов с λ параметром в граничных условиях рассматривались в различных постановках в скалярном случае, где линеаризация была применена к дифференциальным операторам и там были получены некоторые результаты для дифференциальных операторов с неограниченными операторными коэффициентами. В скалярном случае проблемы переформулированы как $\Delta y = \lambda y$ в $L_2(a, b) \oplus C^d$, $(y(0), y_1, \dots, y_d)$, d — число λ -зависимых граничных условий плюс степень λ в них. Таким образом, это линеаризовано.

[1] A.A. Shkalikov "Boundary value problems for ordinary differential equations with a parameter in the boundary conditions" J.Soviet Math., 33,N6,198-6,1311-1342
 [2] Ch. Tretter Journal of differential equations 170, 408-471 (2001). "Boundary eigenvalue problems for differential equations $N\eta = \lambda \mathcal{L}\eta$ with η polynomial boundary conditions"
 [3] N. Kerimov "On the uniform convergence of spectral expansion for a spectral problem with a boundary condition rationally dependent on the eigenparameter", 2017, J. Korean Math. Soc. 0 (0), No. 0, pp. 1-9

On extensions with exit from space, asymptotics of spectrum and regularized trace formula of fourth-order differential operator

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Slide 3 из 17 русский

Rovshan Bandalijev
 Reyhan Akberli
 siavash azimi
 Nigar Aslanova

slide Moscow (1) - PowerPoint Nigar Aslanova

$$y'' + ay = by \quad (8)$$

$$y'(0) = A_0 y(0) \quad (9)$$

$$-y'(b) = A_1 y(b) \quad (10)$$

$$\cos C_1 = \sin C_2 = 0 \quad (11)$$

$$T_n = (0, \pi), T_n = (\pi, 2\pi)$$

Terms of T_n, T_n are regularized values of $y(t)$ and its derivatives at b according to M.L. Gorbachuk, A.N. Kochubei, "Self-adjoint boundary value problems for certain classes of linear differential operators of higher order" (1979)

They give description

- Maximal operator
- Self-adjoint extensions
- self-adjoint extensions with discrete or continuous spectrum filling in some interval of real axis

On extensions with exit from space, asymptotics of spectrum and regularized trace formula of fourth-order differential operator

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Yonca SEZER
 Reyhan Akberli
 siavash azimi
 Nigar Aslanova

Find a participant

RA	Reyhan Akberli (Host, me)	<input type="checkbox"/>	<input type="checkbox"/>
NA	Nigar Aslanova (Co-host)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
AN	Alik Nacafov	<input type="checkbox"/>	<input type="checkbox"/>
EM	Elshad Mammadov	<input type="checkbox"/>	<input type="checkbox"/>
	Hecer Movsumova	<input type="checkbox"/>	<input type="checkbox"/>
RB	Rovshan Bandalijev	<input type="checkbox"/>	<input type="checkbox"/>
SS	Sabina Sadigova	<input type="checkbox"/>	<input type="checkbox"/>
	Sadigova Sadigova	<input type="checkbox"/>	<input type="checkbox"/>
Sç	seda çalışkan	<input type="checkbox"/>	<input type="checkbox"/>
	siavash azimi	<input type="checkbox"/>	<input type="checkbox"/>
	Yonca SEZER	<input type="checkbox"/>	<input type="checkbox"/>

Unmute Stop Video Security Participants Share Screen Reactions Whiteboards Notes More End

Invite Mute All

Microsoft Math3000 - Екі мінута 0:00:07

1 Редакторына Изображение Онов Сервис

sin $\left(x - \frac{\pi}{2}\right) = -\cos(x)$

+

Reyhan Akberli

Rovshan Bandaliyev

siavash azimi

Nigar Aslanova

- Find a participant
- RA Reyhan Akberli (Host, me)
 - NA Nigar Aslanova (Co-host)
 - AN Alik Nacafov
 - Hecer Movsumova
 - RB Rovshan Bandaliyev
 - SS Sabina Sadigova
 - Sadigova Sadigova
 - SÇ seda çalışkan
 - siavash azimi
 - YS Yonca SEZER
 - C Eylem Yavuz