Harmonic analysis related to PDEs

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1 Goal

The goal of this learning seminar is to study harmonic analysis tools that are closely related to the theory of PDEs.

For those who are interested in this seminar, please email me. In the organizational meeting, we allocate speakers for some parts.

2 Plans (tentative)

We will meet Wednesday from 4 PM – 5:20 PM[1] weekly with some exceptions. Below is a tentative plan.

Date	Topic	Refs	Speaker
19/Sep*	Organizational meeting		
28/Sep	Calderón-Zygmund decomposition and L_p-boundedness of singular integrals	[10, 12]	
5/Oct	Other applications of Calderón-Zygmund decomposition, H^1, BMO, and Fefferman-Stein theorem	[1, 5, 13]	
12/Oct	H^1-BMO and compensated compactness	[2, 8, 13]	
19/Oct	Theory of A_p-weights (I)	[4, 13]	
26/Oct	Theory of A_p-weights (II) and Extrapolation theorem	[3, 4]	
9/Nov	Littlewood-Paley theory	[6, 10]	
16/Nov	Function spaces	[6, 9, 11]	
21/Nov*	Paraproducts and Coifman-Meyer theorem	[7]	
30/Nov	Commutator estimates and fractional Leibniz rules	[7, 9]	
7/Dec	Strichartz estimates (end)	[13]	

* Special days

[1] This can be changed.

References

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