



Finnish Centre of Excellence in Inverse Problems Research
and Exactus Doctoral Programme
Invited Lectures, June 9–12, 2015, Oulu, Finland

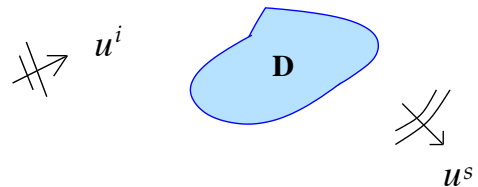
Inverse Scattering Theory and Transmission Eigenvalues

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Outline

1. scattering by an inhomogeneous medium
2. far field patterns and inverse scattering
3. ill-posed problems
4. the factorization and linear sampling methods
5. the transmission eigenvalue problem
6. inverse spectral problems



Timetable

The lectures take place in room M101 at the Department of Mathematical Sciences, University of Oulu. The detailed timetable is as follows:

	Tuesday, Jun 9	Wednesday, Jun 10	Thursday, Jun 11	Friday, Jun 12
11.00–12.00	Lecture	Lecture	Lecture	Lecture
12.00–14.00	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>	<i>Lunch</i>
14.00–15.00	Lecture	Lecture	Lecture	Lecture
15.00–	Discussion	Discussion	Discussion	Discussion

Student Credits

Both undergraduate and postgraduate students are welcome to attend lectures. Students can earn 2 ECTS credits if they attend all lectures and complete a few assignments and/or exercises.

Material will be available at <http://www.oulu.fi/inverse/seminar>

References

- [1] D. Colton and R. Kress. *Inverse Acoustic and Electromagnetic Scattering Theory*, third edition, Springer-Verlag, 2013.
- [2] F. Cakoni and D. Colton. *A Qualitative Approach to Inverse Scattering Theory*, Springer, 2014.