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Preface

Since 1992, the Italian Society for Applied and Industrial Mathematics (SIMAI) holds a biennial congress gathering contributions of researchers from academia and industry working on industrial and applied mathematics problems.

This book collects the abstracts of the talks and plenary lectures given at the SIMAI Congress 2016 that took place in Milano, Italy, from September 13 to September 16, 2016. We are extremely satisfied that so many people have shown their interest in this meeting. In addition to 6 invited plenary lectures, we had more than 360 contributions from Italy and many other European countries, organized into 64 minisymposia. The contributions contained in this book cover both theoretical aspects and practical applications of mathematics and scientific computing. Topics include the analysis of evolution and dissipative processes, stochastic modeling, numerical methodologies such as computational optimization, advanced numerical methods for PDEs, conservation laws and inverse problems, optimal control, model reduction and high-performance-computing, as well as statistical methodologies for the treatment of complex data and signals.

A wide range of applications is covered from life science and biology to geophysics, from image processing to petroleum engineering and quantitative finance.

We would like to thank all participants for their valuable contributions. In particular we mention the fundamental contribution of the minisymposia organizers.

Special thanks are due to the invited speakers: P. Antonietti (Politecnico di Milano), A. Buffa (IMATI-CNR), A. Pontremoli (Dallara Automobili), Wil Schilders (TU Eindhoven), A. Quarteroni (EPFL), and G. Toscani (University of Pavia), for contributing to the success of the conference with the high quality of their contributions.

We gratefully acknowledge the support of the industrial sponsors: Mathesia, MOXOFF, Noesis and SpringerNature.

Finally we would like to thank the Politecnico di Milano for hosting the Congress and, in particular, the Eventimate Team (Anna Rho and Laura Guarino) for the logistic support in the organization of the conference and Luca Lo Curto for the technical support. Moreover we thank and all volunteers (mainly post-doc and PhD students) for their help during the meeting.

We believe that the wide range of applications and the scientific quality of the contributions collected in this book represent the best evidence of the important role that the industrial and applied mathematics can play in our society.

We believe that this book gives an up-to-date description of the state of the art of the research in industrial and applied mathematics in Italy.

Milano, Italy
September 2016

The Organizing Committee

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Individual contributions

Iterative Methods for Signal Reconstruction on Graphs

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In applications such as social, energy, transportation, sensor, and neuronal networks, big data naturally reside on the vertices of graphs. Each vertex stores a sample, and the collection of these samples is referred to as a graph signal. The product of the network graph with the time series graph is considered as underlying structure for the evolution through time of graph signal “snapshots”. The framework of *signal processing on graphs* [4] extends concepts and methodologies from classical discrete signal processing. The task of sampling and recovery is one of the most critical topics in the signal processing community.

In this talk, we present some localized iterative methods, obtained by modifying the Marvasti algorithm [2] in classical signal processing, for interpolating graph signals from only a partial set of samples, both in vertex and time domain. Our methods are also compared with other recent algorithms [3, 5] in order to study rate of convergence and computational efficiency [1]. The experimental results demonstrate the effectiveness of the proposed reconstruction methods in real world datasets and noisy scenarios.

References

- [1] Berinde, V. 2007 *Iterative approximation of fixed points*, 2nd ed., Springer.
- [2] Marvasti, F.; Analoui, M. and Gamshadzahi, M. 1991 *Recovery of Signals from Nonuniform Samples Using Iterative Methods*. IEEE Trans. Sig. Proc. 39 (4), 872–878.
- [3] Narang, S. K.; Gadde, A., Sanou, E. and Ortega, A. 2013 *Localized iterative methods for interpolation in graph structured data*. Proc. 1st IEEE Global Conf. Signal Inf. Process. (GlobalSIP), 491–494.
- [4] Shuman, D. I.; Narang, S. K.; Frossard, P.; Ortega, A. and Vandergheynst, P. 2013 *The emerging field of signal processing on graphs: Extending high-dimensional data*

analysis to networks and other irregular domains. IEEE Trans. Sig. Proc. Mag. 30 (3), 83–98.

- [5] Wang, X.; Liu, P. and Gu, Y. 2015 *Local-Set-Based Graph Signal Reconstruction.* IEEE Trans. Sig. Proc. 63 (9), 2432–2444.

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