CHALMERS | GÖTEBORG UNIVERSITY

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Mathematical Sciences
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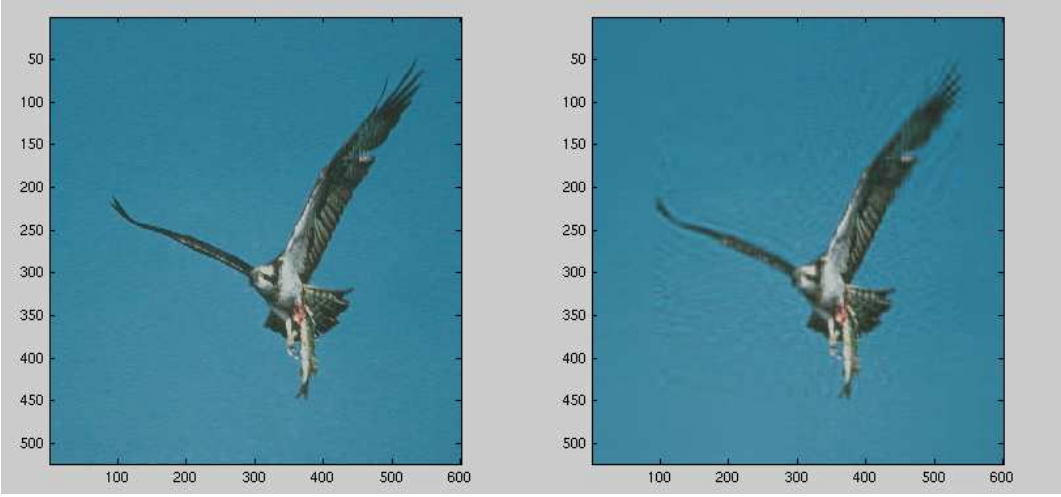
A new master project

Computational aspects of mathematical models in image compression

We offer a master project in the framework of scientific computing which concerns construction and implementation of numerical codes for the image compression problem. It may be performed as an individual or joint (at most two master students) project. The purpose is to produce and compare numerical codes for image compression problem based on the methods of numerical linear algebra and Fourier analysis.

The image compression problem has a wide range of applications in science, engineering and industry. For instance an interesting application aspect is in Medical physics of radiation therapy where an optimization procedure is used in solving the dose delivery problem in, e.g. Computerized Tomography (CT) and Magnetic Resonance Imaging (MRI) modalities. The goal is to maximize the dose delivery to cancer cells while minimizing the occurrence of complications for healthy tissue. By image compression one can obtain a more focused borderlines for, e.g. avoiding radiating vital organs, redefining the regions in iteration procedure of a treatment plan, etc. For more information you may contact either of us:



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Sincerely

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