

FAKULTÄT FÜR INFORMATIK

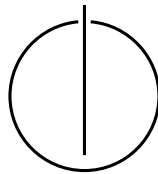
DER TECHNISCHEN UNIVERSITÄT MÜNCHEN

Clinical Project

Simulation of CT metal artefacts in C

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Abstract

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1 Introduction

2 Causes of metal artefacts in CT

2.1 Fundamentals of X-Ray physics

2.1.1 Beam hardening

non-linear relation between the attenuation values, μ , and the measured values of the projection due to the fact that different bands of the frequency spectrum are differently attenuated soft X-ray beams, are more strongly absorbed than the high-energy, hard X-ray beams. This is the reason why this effect is named hardening of the X-ray spectrum and the corresponding image error is named beam-hardening artefact.??

2.2 Fundamentals of CT reconstruction

3 Simulation of CT

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3.1 Forward Projection

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