

Correction of CT Images for Truncated or Incomplete Projections



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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a data consistency condition that provides improved CT images from measured projection data.

OVERVIEW

In clinical computed tomography (CT) practice, image artifacts arise when some data is missing or inconsistent, such as in the case of large patients that extend beyond the imaging field of view or patients with metallic objects, such as dental fillings, that strongly absorb X-rays. These artifacts can obscure anatomical details.

THE INVENTION

A UW-Madison researcher has developed a data consistency condition for estimating missing or contaminated values from the fan-beam projections used in CT. The data consistency condition is used to calculate individual measurements in a missing, noisy or contaminated projection based on measurements from other, uncorrupted projections acquired during the scan. The corrupted projection data is then replaced with the estimated values and the image is reconstructed from the corrected projections.

APPLICATIONS

- Imaging modalities, such as radiation therapy and PET/CT systems

KEY BENEFITS

- Reduces artifacts caused by data that is truncated or lost due to X-ray absorption
- Provides improved CT images from measured projection data
- Can be repeatedly applied to improve results if a large proportion of the acquired data is corrupt

THE WARF ADVANTAGE

Since its founding in 1925 as the patenting and licensing organization for the University of Wisconsin-Madison, WARF has been working with business and industry to transform university research into products that benefit society. WARF intellectual property managers and licensing staff members are leaders in the field of university-based technology transfer. They are familiar with the intricacies of patenting, have worked with researchers in relevant disciplines, understand industries and markets, and have negotiated innovative licensing strategies to meet the individual needs of business clients.



ADDITIONAL INFORMATION

Tech Fields

Medical Imaging - CT

CONTACT INFORMATION

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846.

