

# Improved Processing Method for MRI Contrast Images

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## BRIEF DESCRIPTION

A novel method using Diffusion Tensor Imaging (DTI) combined with Statistical Parametric Mapping (SPM) as an effective diagnostic tool for Traumatic Brain Injury.

## FULL DESCRIPTION

Researchers at UC Irvine have developed a novel MRI processing method by strategically combining Diffusion Tensor Imaging (DTI) alongside Statistical Parametric Mapping (SPM) as an effective diagnostic tool for Traumatic Brain Injury (TBI). Their research has shown a maximal Area Underneath the Receiver Operating Characteristic Curve (AUROC) of 1.000, indicating perfect diagnostic capability.

## SUGGESTED USES

- » Diagnostic tool in medical imaging centers and hospitals
- » Research tool in clinical studies focusing on brain injuries
- » Adjunct diagnostic methodology in neurology and radiology
- » Development of personalized treatment plans for TBI patients

## ADVANTAGES

- » Non-invasive imaging technique
- » Provides a standardized methodology for TBI diagnosis
- » Potential for case-specific evaluation to refine diagnosis
- » Opens avenues for further validation and optimization based on larger patient cohorts
- » High diagnostic accuracy

## PATENT STATUS

Patent Pending

## RELATED MATERIALS

- » Micah Daniel Vinet, Alexander Samir Ayoub, Russell Chow, Joseph C. Wu, Validation of diffusion tensor imaging for diagnosis of traumatic brain injury, Neuroscience Informatics, Volume 4, Issue 2, 2024.

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## OTHER INFORMATION

### KEYWORDS

Traumatic Brain Injury, MRI, TBI

### CATEGORIZED AS

- » **Imaging**
  - » Medical
  - » Software
- » **Medical**
  - » Disease: Central Nervous System
  - » Imaging
  - » Software

### RELATED CASES

2022-942-0

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