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Quantitative diffusion-weighted imaging in breast and liver tissue

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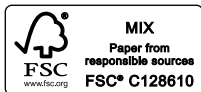
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Quantitative Diffusion-Weighted Imaging in Breast and Liver Tissue



Hildebrand Dijkstra
Quantitative Diffusion-Weighted Imaging in Breast and Liver Tissue
PhD thesis University of Groningen, with a summary in Dutch

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voor Gonda en Kirsten

Er is niets nieuws onder de zon. Is er iets, waarvan men zegt: „Kijk iets nieuws” - dan is het er sinds langvervlogen tijden al geweest.

-Prediker-

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Abbreviations and acronyms

ACC	Accuracy
ADC	Apparent Diffusion Coefficient
ALP	Arterial Liver Perfusion
ALT	Alanine aminotransferase
AST	Aspartate aminotransferase
AUC	Area Under the Curve
b	Factor summarizing the setup of the gradients in DWI
BIRADS	Breast Imaging-Reporting and Data System
BMI	Body Mass Index
BOPTA	Gadobenated dimeglumine
CE-	Contrast-Enhanced
CI	Confidence Interval
DCE-	Dynamic Contrast-Enhanced
DWI	Diffusion-Weighted Imaging
D_{fast}	Microperfusion
D_{slow}	Molecular diffusion
DSC	Dice Similarity Coefficient
EDV	End Diastolic Volume
EF	Ejection Fraction
EPI	Echo-Planar Imaging
FETS	Fast Exchange Two-State
FA	Flip Angle
F_{fast}	Fraction of microperfusion
F_{slow}	Fraction of molecular diffusion
Fib-4	Fibrosis-4 score
Fo	Optimal Fraction
FN	False Negative
FP	False Positive
FNH	Focal Nodular Hyperplasia
G	Gradient strength
Gd-DTPA	Gadopentate dimeglumine
Gd-DOTA	Gadoterate meglumine
Gd-EOB-DTPA	Gadoxetate disodium

GRAPPA	GeneRalised Auto-calibrating Partially Parallel Acquisition
HCC	HepatoCellular Carcinoma
HFF	Hepatic Fat Fraction
HPI	Hepatic Perfusion Index
IDC	Invasive Ductal Carcinoma
ILC	Invasive Lobular Carcinoma
IP	In-Phase
IRB	Institutional Review Board
IVIM	Intravoxel Incoherent Motion Model
MELDIXI	Model for Endstage Liver Disease eXcluding the International normalised ratio
MRI	Magnetic Resonance Imaging
NAFLD	Non-Alcoholic Fatty Liver Disease
NMR	Nuclear Magnetic Resonance
NPV	Negative Predictive Value
OP	Out-of-Phase
PT	Prothrombin Time
QUADAS	Quality Analysis of Data from Any Sensor
ROC	Receiver Operator Characteristics
ROI	Region of Interest
SPAIR	Spectral Adiabatic Inversion Recovery
SPGR	Spoiled Gradient Recalled
SS-EPI	Single Shot Echo-planar Imaging
T1	Longitudinal relaxation
T2	Transversal relaxation
TE	Echo Time
TH	ThresHold
TR	Repetition Time
TN	True Negative
TP	True Positive
US	UltraSonic
VCI	Vena Cava Inferior

