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Microcoil MRI of plants and algae at ultra-high field : an exploration of metabolic imaging

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An exploration of metabolic imaging

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An exploration of metabolic imaging

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ABREVIATIONS

1D	One-dimensional
2D	Two-dimensional
3D	Three-dimensional
ACQ	Acquisition
ADC	Apparent Diffusion Coefficient
Asp	Aspartate
B_0	Magnetic field flux
B_1	RF pulse
BW	Bandwidth
C	Capacitance
CCT	Correlated Colour Temperature
CNR	Contrast-to-Noise Ratio
COSY	Correlation Spectroscopy
CPMG	Carr-Purcell-Meiboom-Gill
CSI	Chemical Shift Imaging
CSSI	Chemical Shift Selective Imaging
CT	Computed Tomography
D_{coil}	Coil Diameter
DQD	Digital Quadrature
D_{voxel}	Voxel diameter
DW	Diffusion Weighting
DW-CSI	Diffusion Weighted Chemical Shift Imaging
DWI	Diffusion Weighted Imaging
Fig.	Figure
FLASH	Fast Low Angle Shot
FLIM	Fluorescence-Lifetime Imaging Microscopy
FOV	Field of View
FWHH	Full Width at Half Height
GABA	γ -Aminobutyric acid
GC	Gas Chromatography
G_D	Diffusion Gradient
GE	Gradient Echo
G_x, G_y, G_z	Imaging gradients in X, Y or Z direction
h	Planck's constant
$\hbar$	Reduced Planck's constant.
HR-MAS	High Resolution Magic Angle Spinning
ID	Inner Diameter
ISA	Image Sequence Analysis
JPRESS	J-resolved Point Resolved Spectroscopy
L	Inductance
LC	Liquid Chromatography
LCOSY	Localised Correlation Spectroscopy
MGE	Multiple Gradient Echo
MIP	Maximum Intensity Projection
MR	Magnetic Resonance
MRM	Magnetic Resonance Microscopy

MRS	Magnetic Resonance Spectroscopy
MS	Mass Spectroscopy
MSI	Mass Spectroscopy Imaging
MSME	Multi-Slice Multi-Echo
M_{xy}	Transversal magnetisation
M_z	Longitudinal magnetisation
NA	Number of Averages
NEX	Number of Excitations
NMR	Nuclear Magnetic Resonance
PBM	peribacteroid membrane
PFD	Perfluorodecalin
PRESS	Point Resolved Spectroscopy
RAREVTR	Rapid Acquisition Relaxation Enhancement with Variable TR
RF	Radio frequency
ROI	Regions of Interest
SE	Spin Echo
SNF	Symbiotic Nitrogen Fixation
SNR	Signal-to-Noise Ratio
SRF	Spatial Response Function
T	Tesla
T_1	Longitudinal relaxation time
T_2	Transversal relaxation time
TE	Time of Echo
TR	Time of Relaxation
v/v	Volume/Volume
VAPOR	Variable Pulse power and Optimized Relaxation delays
VOI	Volume of Interest
WT	Wild Type
γ	Gyromagnetic ratio
δ	Diffusion gradient duration or Chemical Shift
Δ	Diffusion gradient separation
τ	Pulse duration
ω	Resonance frequency

