Contents

Abbreviations

FC	**F**ractional **C**alculus
1**D**	**O**ne-**D**imensional
2**D**	**T**wo-**D**imensional
PDE(s)	**P**artial **D**ifferential **E**quation(s)
TFCD	**T**ime **F**ractional **C**aputo **D**erivative
TFCDs	**T**ime **F**ractional **C**aputo **D**erivatives
R-L	**R**iemann-**L**iouville
GCFD	**G**eneralized **C**aputo **F**ractional **D**erivative
TFDW(s)	**T**ime **F**ractional **D**iffusion-**W**ave(s)
TFMDW(s)	**T**ime **F**ractional **M**ixed **D**iffusion and **D**iffusion-**W**ave(s)
FDM(s)	**F**inite **D**ifferenc **M**ethod(s)
FD(s)	**F**ractional **D**erivative(s)
FDE(s)	**F**ractional **D**ifferential **E**quation(s)
ADI	**A**lternating **D**irection **I**mplicit
OC	**O**rder of **C**onvergence
EOC	**E**xpected **O**rder of **C**onvergence
LTE	**L**ocal **T**runcation **E**rror

Symbols

$\mathbb{R}$	Set of real numbers
$\mathbb{R}^+$	Set of positive real numbers
$\mathbb{N}$	Set of natural numbers
$\mathbb{Z}^+$	Set of positive integers
$\gamma \geq 1$	Mesh grading parameter
Γ	Euler gamma function
$Re(\alpha)$	Real-part of α
$AC^n[a, b]$	nth-time absolutely continuous on $[a, b]$
$C[a, b]$	Continuous on $[a, b]$
$C^n[a, b]$	nth derivative continuous on $[a, b]$
$L^p(p \in [1, \infty])$	L^p space
$[x]$	greatest integer function
$\lceil x \rceil$	ceiling function

List of Figures

List of Tables