

# Contents

## Part I System Overview

<b>1 An Overview of 3D-TV System Using Depth-Image-Based Rendering . . . . .</b>	<b>3</b>
Yin Zhao, Ce Zhu, Lu Yu and Masayuki Tanimoto	

## Part II Content Generation

<b>2 Generic Content Creation for 3D Displays. . . . .</b>	<b>39</b>
Frederik Zilly, Marcus Müller and Peter Kauff	
<b>3 Stereo Matching and Viewpoint Synthesis FPGA Implementation . . . . .</b>	<b>69</b>
Chao-Kang Liao, Hsiu-Chi Yeh, Ke Zhang, Vanmeerbeeck Geert, Tian-Sheuan Chang and Gauthier Lafruit	
<b>4 DIBR-Based Conversion from Monoscopic to Stereoscopic and Multi-View Video . . . . .</b>	<b>107</b>
Liang Zhang, Carlos Vázquez, Grégory Huchet and Wa James Tam	
<b>5 Virtual View Synthesis and Artifact Reduction Techniques . . . . .</b>	<b>145</b>
Yin Zhao, Ce Zhu and Lu Yu	
<b>6 Hole Filling for View Synthesis . . . . .</b>	<b>169</b>
Ismael Daribo, Hideo Saito, Ryo Furukawa, Shinsaku Hiura and Naoki Asada	
<b>7 LDV Generation from Multi-View Hybrid Image and Depth Video . . . . .</b>	<b>191</b>
Anatol Frick and Reinhard Koch	

### **Part III Data Compression and Transmission**

<b>8</b>	<b>3D Video Compression . . . . .</b>	<b>223</b>
	Karsten Müller, Philipp Merkle and Gerhard Tech	
<b>9</b>	<b>Depth Map Compression for Depth-Image-Based Rendering . . . .</b>	<b>249</b>
	Gene Cheung, Antonio Ortega, Woo-Shik Kim, Vladan Velisavljevic and Akira Kubota	
<b>10</b>	<b>Effects of Wavelet-Based Depth Video Compression . . . . .</b>	<b>277</b>
	Ismael Daribo, Hideo Saito, Ryo Furukawa, Shinsaku Hiura and Naoki Asada	
<b>11</b>	<b>Transmission of 3D Video over Broadcasting. . . . .</b>	<b>299</b>
	Pablo Angueira, David de la Vega, Javier Morgade and Manuel María Vélez	

### **Part IV 3D Visualization and Quality Assessment**

<b>12</b>	<b>The Psychophysics of Binocular Vision . . . . .</b>	<b>347</b>
	Philip M. Grove	
<b>13</b>	<b>Stereoscopic and Autostereoscopic Displays. . . . .</b>	<b>375</b>
	Phil Surman	
<b>14</b>	<b>Subjective and Objective Visual Quality Assessment in the Context of Stereoscopic 3D-TV . . . . .</b>	<b>413</b>
	Marcus Barkowsky, Kjell Brunnström, Touradj Ebrahimi, Lina Karam, Pierre Lebreton, Patrick Le Callet, Andrew Perkis, Alexander Raake, Mahesh Subedar, Kun Wang, Liyuan Xing and Junyong You	
<b>15</b>	<b>Visual Quality Assessment of Synthesized Views in the Context of 3D-TV. . . . .</b>	<b>439</b>
	Emilie Bosc, Patrick Le Callet, Luce Morin and Muriel Pressigout	
	<b>Index . . . . .</b>	<b>475</b>

3D-TV System with Depth-Image-Based Rendering  
Architectures, Techniques and Challenges

Zhu, C.; Zhao, Y.; Yu, L.; Tanimoto, M. (Eds.)

2013, XII, 480 p., Hardcover

ISBN: 978-1-4419-9963-4