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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Ultra Clean Processing of Semiconductor Surfaces XII; Preface, Committee and Acknowledgement; Table of Contents; Chapter 1: Cleaning for FEOL Applications; Necessity of Cleaning and its Application in Future Memory Devices; Removal of Interfacial Layer in HfO ₂ Gate Stack by Post-Gate Cleaning Using NF ₃ /NH ₃ Dry Cleaning Technique; Catalyst Assisted Low Temperature Pre Epitaxial Cleaning for Si and SiGe Surfaces; HF-Last Wet Clean in Combination with a Low Temperature GeH ₄ -Assisted HCl In Situ Clean Prior to Si _{0.8} Ge _{0.2} -on-Si Epitaxial Growth Retardation Phenomenon of Oxide Removal during the Formation of Dual Gate Oxide via PR-Mask Wet Etching Aluminum Reduction in SC1; Metal Removal Efficiency in Deep Submicron Trenches by Wet Chemicals; Impact of Surface Treatment of Si ₃ N ₄ on Subsequent SiO ₂ Deposition; Operation of a New Electrolyzed Cell Using Boron Doped Diamond Electrodes ; Chapter 2: Cleaning for FEOL Applications: Beyond-Si Active Area; InGaAs (110) Surface Cleaning Using Atomic

Hydrogen; Surface Chemistry of GaAs(100) and InAs(100) Etching with Tartaric Acid; Nanoscale Etching and Reoxidation of InAs Passivation of In Sb(100) with 1-Eicosanethiol Self-Assembled Monolayers Cross-Contamination Risk Evaluation during Fabrication of III-V Devices in a Silicon Processing Environment; Surface Cleaning of Graphene by CO₂ Cluster; Chapter 3: Wet Etching for FEOL Applications; Process Control Challenges of Wet Etching Large MEMS Si Cavities; Wet Etch Rate Behavior of Poly-Si in TMAH Solution at Various Ambient Gas Conditions; Advanced Monitoring of TMAH Solution; Effect of Dissolved Oxygen for Advanced Wet Processing; Watermark Formation on Bare Silicon: Impact of Illumination and Substrate Doping Selective Nitride Etching with Phosphoric and Sulfuric Acid Mixtures Using a Single-Wafer Wet Processor Single Wafer Selective Silicon Nitride Removal with Phosphoric Acid and Steam; Pt Etching Method at Low Temperature Using Electrolyzed Sulfuric Acid Solution; Nickel Selective Etch for Contacts on Ge Based Devices; Chapter 4: Wet Processing of High Aspect Ratio Structures; Study of Wetting of Nanostructures Using Decoration by Etching; Impact of Electrostatic Effects on Wet Etching Phenomenon in Nanoscale Region; Freeze Drying of High Aspect Ratio Structures
Chapter 5: Fluid Dynamics, Cleaning Mechanics Effect of DI-Water Dilution and Etchant Arm Movement on Spinning Type Wet Etch; Effect of Nozzle Distance and Fluid Flow Rate in Jet Spray Wafer Cleaning Process; Effects of Chamber Pressure on the Performance of CO₂ Beam Cleaning; Physical Chemistry of Water Droplets in Wafer Cleaning with Low Water Use; Metal Etch in Advanced Immersion Tank with Precision Uniformity Using Agitation and Wafer Rotation; Novel Slurry Injection System for Improved Slurry Flow and Reduced Defects in CMP Effect of Viscoelasticity of PVA Brush on Friction during Post-CMP Cleaning: A Guideline for Nodule Configuration

Sommario/riassunto

Collection of selected, peer reviewed papers from the 12th International Symposium on Ultra Clean Processing of Semiconductor Surfaces (UCPSS), September 21-24, 2014, Brussels, Belgium. The 71 papers are grouped as follows: Chapter 1: Cleaning for FEOL Applications, Chapter 2: Cleaning for FEOL Applications: Beyond-Si Active Area, Chapter 3: Wet Etching for FEOL Applications, Chapter 4: Wet Processing of High Aspect Ratio Structures, Chapter 5: Fluid Dynamics, Cleaning Mechanics, Chapter 6: Photo Resist Performance and Rework, Chapter 7: Cleaning for BEOL Interconnect Applications, Chapter 8: C
