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| Disciplina              | 629.2/76  |
| Soggetti                | Air bag restraint systems<br>Crash sensors<br>Automotive sensors  |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Nota di bibliografia    | Includes bibliographical references.  |
| Nota di contenuto       | History and Background -- Accident Statistics: Are Air Bags Effective?<br>-- How Do Air Bags Work? -- Design Issues and Considerations --<br>Recent Developments -- Crash Analysis -- Crash Data -- Crash<br>Analysis: What Information Can Be Extracted from Crash Data? -- Crash<br>Data Examples -- Observations and Discussions about Crash Data --<br>Crash Library for Sensor Design -- Crash Sensing Criteria -- Threshold<br>of Collision Severity: When is an Air Bag Deployment Needed? -- Rule<br>of 5 Inches Minus 30 Milliseconds and Sensor Triggering Time --<br>Occupant Performance Criterion -- Crash Sensing Characteristics --<br>Crash Sensing Concepts -- Signals for Crash Detection -- Speed-<br>Dependent Crash Sensing -- Crush-Dependent Crash Sensing --<br>Electronic Sensors -- Other Sensor Concepts and Systems --<br>Mechanical Crash Sensors -- Exemplar Crash Sensors -- Mathematical<br>Analysis of Mechanical Crash Sensors -- Sensor Sensitivity and<br>Characteristics -- Sensor Testing -- Electronic Crash Sensors -- What<br>Are Electronic Crash Sensors and Why Are They Used? -- Functions and<br>Components of Electronic Crash Sensors -- Sensing Algorithms in<br>Electronic Sensors -- Signals and Variables in Sensing Algorithms --<br>Crash Sensor Placement Strategies -- Distributed Sensing and Single-<br>Point Sensing -- All-Mechanical Air Bag Systems -- Single-Point |

Sensing Concept and Electronic Sensors -- Side Impact Sensing and Air Bags -- Side Impact -- Kinematic Analysis of Side Impact -- Sensing Concepts and Examples.

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Sommario/riassunto

Fundamentals of Crash Sensing in Automotive Air Bag Systems provides a sound introduction for engineers designing air bag systems, accident reconstructionists, litigation professionals, managers, government employees, and anyone involved with automotive safety. Drawing upon the wisdom of many pioneers in the field, Chan presents a clear explanation of automotive air bag sensors using easy-to-read charts, tables, and figures. The book also includes a glossary of terms, and exercises for further study.

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