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The Fractional Trigonometry 2022-08-02 the aim of this book is to understand and describe the martensitic phase transformation and the process of martensite platelet reorientation these two key elements enable the author to introduce the main features associated with the behavior of shape memory alloys smas i e the one way shape memory effect pseudo elasticity training and recovery attention is paid in particular to the thermodynamical frame for solid materials modeling at the macroscopic scale and its applications as well as to the particular use of such alloys the simplified calculations for the bending of bars and their torsion other chapters are devoted to key topics such as the use of the crystallographical theory of martensite for sma modeling phenomenological and statistical investigations of smas magneto thermo mechanical behavior of magnetic smas and the fracture mechanics of smas case studies are provided on the dimensioning of sma elements offering the reader an additional useful framework on the subject contents 1 some general points about smas 2 the world of shape memory alloys 3 martensitic transformation 4 thermodynamic framework for the modeling of solid materials 5 use of the ctm to model smas 6 phenomenological and statistical approaches for smas 7 macroscopic models with internal variables 8 design of sma elements case studies 9 behavior of magnetic smas 10 fracture mechanics of smas 11 general conclusion appendix 1 intrinsic properties of rotation matrices appendix 2 twinning equation demonstration appendix 3 calculation of the parameters a n and q from the twinning equation appendix 4 twinned austenite martensite equation about the authors christian lexcellent is emeritus professor at the École nationale supérieure de mécanique et des microtechniques de besançon and a researcher in the department of applied mechanics at femto st in france he is a specialist in the mechanics of materials and phase transition and has taught it the subject 6 12 secrets study guide ftce test review for the florida teacher certification examinations

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