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Sommario/riassunto	This proceedings volume presents selected and peer reviewed 50 reports of the 2015 International Conference on "Physics and Mechanics of New Materials and Their Applications" (Azov, Russia, 19-22 May, 2015), devoted to 100th Anniversary of the Southern Federal University, Russia. The book presents processing techniques, physics, mechanics, and applications of advanced materials. The book is concentrated on some nanostructures, ferroelectric crystals, materials and composites and other materials with specific properties. In this book are presented nanotechnology approaches, modern piezoelectric techniques, physical and mechanical studies of the structure-sensitive properties of the materials. A wide spectrum of mathematical and

numerical methods is applied to the solution of different technological, mechanical and physical problems for applications. Great attention is devoted to novel devices with high accuracy, longevity and extended possibilities to work in a large scale of temperatures and pressure ranges, aggressive media, etc. The characteristics of materials and composites with improved properties is shown, and new possibilities in studying of various physico-mechanical processes and phenomena are demonstrated.
