Record Nr. UNINA9910453564203321 Symmetry and fundamental physics: Tom Kibble at 80 / / edited by **Titolo** Jerome Gauntlett Pubbl/distr/stampa Hackensack, NJ:,: World Scientific,, [2014] ©2014 **ISBN** 981-4583-06-5 Descrizione fisica 1 online resource (170 p.) Altri autori (Persone) GauntlettJerome 530 Disciplina 539.7 539.7/258 Soggetti Symmetry (Physics) **Physics** Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references. Nota di bibliografia Nota di contenuto Contents; Preface; Acknowledgments; Photos; Tom Kibble and the Early Universe as the Ultimate High Energy Experiment; 1. Introduction; 2. Inflation; 3. Can We Do Better?; 4. The Electroweak Higgs: A New Clue; 5. Weyl Invariance and the Big Crunch/Big Bang Transition: 6. Holographic Description of a Bouncing Cosmology; 7. Summary and Conclusions; References; Universality of Phase Transition Dynamics: Topological Defects from Symmetry Breaking; 1. Introduction; 2. The Kibble-Zurek Mechanism; 3. Landau Zener Crossing as a Quantum Example of the KZM 3.1. Controlling excitations in Landau Zener crossing4. Quantum Phase Transitions; 5. Adiabatic Crossing of Quantum Phase Transition; 6. The KZM and Transitions between Steady States; 7. Winding Numbers in Loops; 7.1. Trapping flux in small loops; 8. Defect Formation in Multiferroics; 9. The Inhomogeneous Kibble-Zurek Mechanism; 10. Kink Formation in Ion Chains; 10.1. Prospects of ground-state cooling of ion chains; 11. Soliton Formation in Bose Einstein Condensation; 12.

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8.3.6. Compatibility of the observed state with the SM Higgs boson hypothesis: non-standard couplings9. Conclusions and Outlook; Epilogue; Acknowledgements; References; Tom Kibble: Breaking Ground and Breaking Symmetries; Tom Kibble at 80: After Dinner Speech; References; Publication List

Tom Kibble is an inspirational theoretical physicist who has made profound contributions to our understanding of the physical world. To celebrate his 80th birthday a one-day symposium was held on March 13, 2013 at the Blackett Laboratory, Imperial College, London. This important volume is a compilation of papers based on the presentations that were given at the symposium. The symposium profiled various aspects of Tom's long scientific career. The tenor of the meeting was set in the first talk given by Neil Turok, director of the Perimeter Institute for Theoretical Physics, who described Tom as