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5.7. Hausdor. Dimension 6. Lecture 5: Measure-theoretical injury arguments; 6.1. Risking measure; 6.2. 2-random degrees are hyperimmune; 6.3. Almost every degree is CEA; References; Global Properties of the Turing Degrees and the Turing Jump Theodore A. Slaman; 1. Introduction; 1.1. Style; 2. The coding lemma and the first order theory of the Turing degrees; 2.1. The coding lemma; 3. Properties of automorphisms of D ; 3.1. Results of Nerode and Shore; 4. Slaman and Woodin analysis of $\text{Aut}(D)$; 4.1. Persistent automorphisms; 4.2. Persistently extending persistent automorphisms 4.3. Persistence and refection 4.4. Generic persistence; 4.5. Denability of automorphisms of D ; 4.6. Invariance of the double jump; 5. Denability in D ; 5.1. Bi-interpretability; 6. The Turing jump; 6.1. Recursive enumerability; References; Set Theory Tutorials; Derived Models Associated to Mice John R. Steel; 1. Introduction; 2. Some background and preliminaries; 2.1. Homogeneously Suslin sets; 2.2. Hom_1 iteration strategies; 2.3. The derived model; 2.4. Iterations to make $\text{RV} = R$; 2.5. Premice over a set; 3. Iteration independence for derived models of mice 4. Mouse operators and jump operators 5. The mouse set conjecture in $D(M; \cdot)$; 6. The Solovay sequence in $D(M; \cdot)$; 7. The Σ_1 -transform; 8. A long Solovay sequence; 9. The mouse set conjectures: Framework of the induction; 10. The background universe N ; 11. The $L[E]$ -model N_x ; 12. Two hybrid mouse operators at 0 ; 13. New mice modulo (y) ; 15. The consistency strength of $\text{AD}^{++} + 0^\#$; 16. Global MSC implies the local MSC; 17. MSC implies capturing via R -mice; References; Tutorial Outline: Suitable Extender Sequences W. Hugh Woodin; 1. Introduction; 2. Generalized iteration trees 2.1. Long extenders

Sommario/riassunto

This volume presents the written versions of the tutorial lectures given at the Workshop on Computational Prospects of Infinity, held from 18 June to 15 August 2005 at the Institute for Mathematical Sciences, National University of Singapore. It consists of articles by four of the leading experts in recursion theory (computability theory) and set theory. The survey paper of Rod Downey provides a comprehensive introduction to algorithmic randomness, one of the most active areas of current research in recursion theory. Theodore A Slaman's article is the first printed account of the ground-breaking