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		"The workshop 'Torsors: theory and applications' took place at the International Centre for Mathematical Sciences in Edinburgh from 10-14 January 2011 ... This collection contains the lecture notes of two mini-courses presented at the workshop by Jurgen Hausen and Vera Serganova, as well as the papers contributed by participants"--Preface.
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Lecture notes: Three lectures on Cox rings / J. Hausen. A very brief introduction to etale homotopy / T.M. Schlank and A.N. Skorobogatov. Torsors and representation theory of reductive groups / V. Serganova -- Contributed papers: Torsors over Luna strata / I.V. Arzhantsev. Abelianisation des espaces homogenes et applications arithmetiques / C. Demarche. Gaussian rational points on a singular cubic surface / U.

Derenthal and F. Janda. Actions algebriques de groupes arithmetiques / P. Gille and L. Moret-Bailly. Descent theory for open varieties / D. Harari and A.N. Skorobogatov. Homotopy obstructions to rational points / Y. Harpaz and T.M. Schlank. Factorially graded rings of complexity one / J. Hausen and E. Herppich. Nef and semiample divisors on rational surfaces / A. Laface and D. Testa. Example of a transcendental 3-torsion Brauer-Manin obstruction on a diagonal quartic surface / T. Preu.

| Sommario/riassunto | Torsors, also known as principal bundles or principal homogeneous spaces, are ubiquitous in mathematics. The purpose of this book is to present expository lecture notes and cutting-edge research papers on the theory and applications of torsors and etale homotopy, all written from different perspectives by leading experts. Part one of the book contains lecture notes on recent uses of torsors in geometric invariant theory and representation theory, plus an introduction to the etale homotopy theory of Artin and Mazur. Part two of the book features a milestone paper on the etale homotopy approach to the arithmetic of rational points. Furthermore, the reader will find a collection of research articles on algebraic groups and homogeneous spaces, rational and K3 surfaces, geometric invariant theory, rational points, descent and the Brauer-Manin obstruction. Together, these give a state-of-the-art view of a broad area at the crossroads of number theory and algebraic geometry. |