1. Record Nr. UNINA9910254641803321

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Titolo	Measurement of the D0 Meson Production in Pb–Pb and p–Pb Collisions : A Study Performed with the ALICE Experiment at the LHC / / by Andrea Festanti
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-43455-1
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (184 p.)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	539.72162
Soggetti	Nuclear physics Heavy ions Cosmology Quantum field theory String theory Nuclear Physics, Heavy Ions, Hadrons Quantum Field Theories, String Theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Introduction -- Physics of Ultra-Relativistic Heavy-Ion Collisions -- Heavy-Flavour Probes in Heavy-Ion Collisions -- The ALICE Experiment at the LHC -- Experimental Observables -- D0 K+ Decay Reconstruction -- Systematic Uncertainties -- Azimuthal Anisotropy of D0 Production in Pb–Pb Collisions -- D0 Production in p–Pb Collisions -- Conclusions.
Sommario/riassunto	This thesis presents the first measurement of charmed D0 meson production relative to the reaction plane in Pb–Pb collisions at the center-of-mass energy per nucleon-nucleon collision of sNN = 2.76 TeV. It also showcases the measurement of the D0 production in p–Pb collisions at sNN = 5.02 TeV with the ALICE detector at the CERN Large Hadron Collider. The measurement of the D0 azimuthal anisotropy with respect to the reaction plane indicates that low-momentum charm quarks participate in the collective expansion of the

high-density, strongly interacting medium formed in ultra-relativistic heavy-ion collisions, despite their large mass. This behavior can be explained by charm hadronization via recombination with light quarks from the medium and collisional energy loss. The measurement of the D0 production in p–Pb collisions is crucial to separate the effect induced by cold nuclear matter from the final- state effects induced by the hot medium formed in Pb–Pb collisions. The D0 production in p–Pb collisions is consistent with the binary collision scaling of the production in pp collisions, demonstrating that the modification of the momentum distribution observed in Pb–Pb collisions with respect to pp is predominantly induced by final-state effects such as the charm energy loss.